

SEQUENCE LISTING

<110> HARRINGTON, JOHN J.
SHERF, BRUCE
RUNDLETT, STEPHEN

<120> COMPOSITIONS AND METHODS FOR NON-TARGETED ACTIVATION OF
ENDOGENOUS GENES

<130> 0221-0003M

<140> 09/513,575

<141> 2000-12-25

<150> 09/276,820

<151> 1999-03-26

<150> 09/263,814

<151> 1999-03-08

<150> 09/253,022

<151> 1999-02-19

<150> 09/159,643

<151> 1998-09-24

<150> 08/941,223

<151> 1997-09-26

<160> 33

<170> PatentIn Ver. 2.1

<210> 1

<211> 39

<212> DNA

<213> Homo sapiens

<400> 1

tccttcgaag cttgtcatgg ttggttcgct aaactgeat

39

<210> 2

<211> 40

<212> DNA

<213> Homo sapiens

<400> 2

aaacttaaga tcgattaatc attcttctca tataactcaa

40

<210> 3

<211> 28

<212> DNA

<213> Homo sapiens

<400> 3

atccaccatg gctacagggtg agtactcg

28

<210> 4
<211> 36
<212> DNA
<213> Homo sapiens

<400> 4
gatccgagta ctcacctgta gccatggtgg atttaa

36

<210> 5
<211> 33
<212> DNA
<213> Homo sapiens

<400> 5
ggcgagatct agcgctatat gcgttgatgc aat

33

<210> 6
<211> 51
<212> DNA
<213> Homo sapiens

<400> 6
ggccagatct gctaccttaa gagagccgaa acaagcgctc atgagccga a

51

<210> 7
<211> 6084
<212> DNA
<213> Homo sapiens

<400> 7
agatcttcaa tattggccat tagccatatt attcattggt tatatagcat aaatcaatat 60
tggctattgg ccattgcata cgttgatctc atatcataat atgtacattt atattggctc 120
atgtcccaata tgaccgccat gttggcattg attattgact agttattaat agtaaatcaat 180
tacgggggtca ttagttccata gcccatatat ggagttccgc gttacataac ttacggtaaa 240
tggcccgccct ggctgacgcg ccaacgaccc cgcgccattg acgtcaataa tgacgtatgt 300
tcccatagta agcccaatag ggaactttcca ttgacgtcaa tgggtggagt atttacggta 360
aactgccacc ttggcagtac atcaagtgtat tcoatagcca agtccgcccc ctattgacgt 420
caatgacgggt aaatggcccg cctggcatta tgcccagtac atgaccttac gggactttcc 480
tacttggcag tacatctacg tattagtcac cgctattacc atggtgatgc ggttttggca 540
gtacaccaat gggcgtggat agcgggttga ctcacgggga tttccaagtc tccaccccat 600
tgacgtcaat gggagtttgt tttggcacca aaatcaacgg gactttccaa aatgtcgtaa 660
caactgcgat cgcgcgcgcc gttgacgcaa atgggcggta ggcgtgtacg gtgggaggtc 720
tatataagca gagctcgttt agtgaaccgt cagatcacta gaagctttat tgcggtagtt 780
tatcacagtt aaattgctaa cgcagtcagt gcttctgaca caacagtcct gaaacttaagc 840
tgcagtgact ctcttaatta actccaccag tctcacttca gttccttttg cctccaccag 900
tctcacttca gttccttttg catgaagagc tcagaatcaa aagaggaaac caaccocctaa 960
gatagctttt ccattgaaat ttgtagccag ctctcctctg attttcaatg tttcttccaa 1020
agggtgcagtc tccaaagaga ttacgaatgc cttggaaacc tggggtgcct tgggtcagga 1080
catcaacttg gacattccta gttttcaaat attgacgata taaaatggga 1140
aaaaaacttca gacaaagaaa agattgcaca attcagaaaa gagaaagaga ctttcaagga 1200
aaaagataca tataagctat ttaaaaatgg aactctgaaa attaagcatc tgaagaccga 1260

tgatcaggat	atctacaagg	tatcaatata	tgtacacaaa	ggaaaaaatg	tgttgaaaa	1320
aatatttgat	tgaagatct	aagagaggg	ctcaaaacca	aagatctctc	ggacttgtat	1380
caacaacaac	ctgacctgtg	aggtaatgaa	tggaaactgac	ccogaattaa	acctgtatca	1440
agatgggaaa	catctaaaa	ttcttcagag	ggctcatcaca	cacaagtggg	ccaccagcct	1500
gagtgcaaaa	ttcaagtgc	cagcagggaa	caaagtcagc	aaggaatcca	gtgtcgagcc	1560
tgtcagctgt	ccagagaaa	ggatccaggt	gagtagggcc	cgatcctctc	agagtcgagg	1620
ctcttaagg	tagcaaggt	acaagacagg	tttaaggaga	ccaatagaaa	ctgggcttgt	1680
cgagacagag	aagactctctg	cgtttctgat	aggcacctat	tggctcttacg	cggcgcgaaa	1740
ttccaagctt	gagtatctcta	tctgtgcacc	taaaataact	ggcgtaatca	tggctcatct	1800
tgtttctctg	gtgaaattgt	tatcogctca	caattccact	caacatacga	gcgcggaagc	1860
taaagtgtaa	agcctgggg	gcctaagtga	tgagctaact	cacattaatt	gogttgcgcg	1920
atgcttccat	tttgtgaggg	ttaatgcttc	gagaagacat	gataagatgc	attgatgagt	1980
ttggacaaac	caacaacaaga	atgcagtgaa	aaaaatgctt	tattttgtgaa	attttgtgat	2040
ctattgtctt	atttgttaacc	attataagct	gcaataaaca	agttaacaac	aacaattgca	2100
ttcattttat	gtttcaggtt	cagggggaga	tgtgggaggt	tttttaaaag	aagtaaaacc	2160
tctacaaatg	tggtaaaaac	cgataaggat	cgattccgga	gcttgaatgg	cgaaatggag	2220
cgccctgtag	cggcgccatta	agcgcggcgg	gtgtggtggt	tacgcgcagc	tgacgcgtac	2280
acttgcagcg	cctctagocg	ccgctccttt	cgctttcttc	cgcttcttct	tcggcccgaa	2340
cgccgctctt	ccccgtcaag	ctctaaatcg	ggggctccct	ttagggtctc	gattttagtc	2400
tttaaggcgc	ctgcagcccca	aaaaacttga	ttagggtgat	ggttcaagta	gtgggcccac	2460
gcctctgatg	acgggtttttc	gccttttgac	gttggagctc	acgttcttta	atagtggaact	2520
cttgttccaa	actggcaacaa	cactcaaccc	tatctcggct	tattcttttt	atttataaag	2580
gattttgcog	atttgcgcct	attgggtaaa	aaatcgagctg	atttaacaaa	atattcaacg	2640
gaatttttaag	aaaaatttaa	cgcttacaat	ttcgctctgt	taccttctga	ggcggaagaa	2700
acaaatctgc	gaatgttgtg	cagttagggt	gtggaaaagt	ccagagctcc	ccagcaggca	2760
gaagtatgca	aagcatgcat	ctcaattagt	cagcaaccag	gtgtggaaa	tcgccagcgt	2820
ccacgcagcg	cagaagcatg	caaaagcatg	atctcaatta	ctcagcaacc	atcagcccg	2880
ccctaactcc	gcccattccg	cccctaactc	cgcccagttc	cgcccactct	cgcccccact	2940
gctgactaa	tttttttatt	tatgcagagg	cgagggccgc	ctcgccctct	gagctattcc	3000
agaagttagt	aggaggcttt	tttgagggcc	taggcttttg	caaaaagctt	gattcttctg	3060
acacaacagt	ctcgaactta	aggctagagc	cacctgattt	gaacaagatg	gattgcacgc	3120
aggtttctcg	gcccgttggg	tggagaggct	atctcggtat	gactgggca	aacagacaat	3180
cggtctctgt	gatgcgcgcg	tgttccggct	gtcagcgacg	gggcgcggcg	ttctttttgt	3240
caagaccagc	ctgtccgggtg	ccctgaatga	actgcaggac	gaggcagcgc	ggctatcgtg	3300
gctgcacacg	acggggcttc	cttgcgcagc	tgtgctcgac	gttgctcactg	aagcgggaa	3360
ggactggctg	ctatttccgc	aagtgcgggg	caggagctct	ctgtcatctc	accttgcctc	3420
tgccagagaaa	gtatccatca	tggctgatgc	aatgcggcgg	ctgcatacgc	ttgatccggc	3480
tacotgccca	ttcgaccacc	aagcgaalaa	tcgcacgcg	cgagcacgta	ctcggatgca	3540
agccgctctt	ctgcatacgg	atgatctgga	cgaagagcat	caggggctcg	cgcacgcgga	3600
actgttgcgc	aggctcaacg	cgcgcagtcg	cgcggggag	gatctcgctg	tgaccocatg	3660
cgatgcctgc	ttgcgcgaata	tcatggtgga	aaatggccgc	ttttctggat	tcatcgactg	3720
tggccggctg	gggtgtggcg	acgcgtatca	ggacatagcg	tttggctacc	gtgatattgc	3780
tgaagagctt	ggcggcgaa	gggctgacgc	cttctcgtg	ctttacggta	ctgcgcgtcc	3840
cgatctcgag	cgatcgcctc	tctatcgctc	tcttgacgag	tttctctgag	cgggactgtc	3900
gggttcgaaa	tgaccgcaca	agcagcgc	aacctgccat	cacgatggcc	gcaataaaat	3960
atctttattt	tcaattacac	tgtgtgtgtg	ttttttgtgt	gaagatccgc	gatgtgtgca	4020
ctctcagtaa	aatctgctct	gatgcgcgac	agttaaagcca	gcccgcgaca	ccgcgcaac	4080
cogctgaecg	gcctcagcgg	gcttgcctgc	tcgccgcato	cgcttacaga	caagctgtga	4140
ccgtctccgc	gagctgcgat	tgtcagaggt	tttcacgcgc	atcacggaaa	cgcgcgagac	4200
gaaggcgctg	ctgtatacgc	ctatttttat	aggttaatgt	catgataata	atggttttct	4260
agaagtcagg	tggcaacttt	cggggaaatg	tgcgcggaac	ccctatttgt	ttatttttct	4320
aaatacattc	aaatatgtat	ccgctcatga	gaacataaac	ctgataaaat	cttcaataat	4380
attgaaaaag	gaagagatg	agtatccaac	atttccgtgt	cgccctattt	cccttttttg	4440
cggcattttg	ccttctctgt	tttgcctcacc	cagaaaacgc	gggtgaaagt	aaagatgcgt	4500
aaagatcagt	gggtgcacga	gtgggttaca	tgcgaactga	ttcgaacagc	gttaagatcc	4560
ttagagattt	tcgcccgcga	gaacgttttc	caatgatgag	cactttttaa	gttctgcata	4620
gtggcgcggt	attgacccgt	atgtacgcgc	ggcgaagaga	actcgttcgc	cgatcatcgc	4680

attctcagaa	tgacttggtt	gagtaactcac	cagtcacaga	aaagcatctt	acggatggca	4740
tgacagtaag	agaattatgc	agtgtctgcca	taaccatgag	tgataaact	cgggccaact	4800
tactctctgac	aacgatcgga	ggaccgaagg	agctaaccgc	ttttttgac	aacatggggg	4860
atcatgtaac	tcgccttgat	cgttgggaaac	cggaagctgaa	tgaaagcata	ccaaacgacg	4920
agcgtgacac	cacgatgctt	gtagcaatgg	caacaaactt	gcgcacacta	ttactctggc	4980
aactactttac	tctagctctcc	cggcaacaat	taatagactg	gatggaggcg	gataaagtgt	5040
caggacacct	tctgcgtctg	gcccttcogg	ctggctgggt	tattgtctgat	aaactctggag	5100
cgggtgagcg	tggtctctgc	ggatcatctg	cagcactggg	gccagatggt	aagccctccc	5160
gtatcgtagt	tatctacacg	acggggagtc	agggcaactat	ggatgaacga	aatagacaga	5220
tcgctgagat	aggctgccc	ctgattaagc	attggtaact	gcagaccaa	gtttactcat	5280
atatacttta	gattgtattt	aaactctcatt	tttaatttaa	aaggatctag	gtgaagatcc	5340
tttttgataa	tctcatgacc	aaaatccctt	aacgtgaagt	ttcgtccac	tgagcgctcag	5400
accocgtaga	aaagatcaaa	ggatctcttt	gagatccttt	ttttctgcgc	gtaactctgct	5460
gcttgcaaac	aaaaaaacca	cgcgtaccag	cgggtggttg	tttgccggat	caagagctac	5520
caactctttt	tcocgaagta	actggcttca	gcagagcgca	gataccaaat	actgtccttc	5580
tagtgtagcc	gtagttaggc	caccacttca	agaactctgt	agcacccgct	acatacctcg	5640
ctctgcta	cctgttacc	gtggctgctg	ccagtggcga	taagtctgtg	cttactcgggt	5700
tggaactcag	acgatgttta	cgggataagg	cgcagcggtc	gggctgaacg	gggggttctgt	5760
gcacacagcc	cagctctggag	cgaacgacct	acaccgaact	gagataccta	cagcgtgagc	5820
tatgagaagg	cccgacgctt	cccgaaagga	gaaaggcgga	caggatctcg	gtaagccggca	5880
gggtcgggaag	aggagagcgc	acgagggagc	ttccaggggg	aaacccctgt	tatctttata	5940
gtcctgtcgg	gtttcgccac	ctctgacttg	agcgtcgatt	tttgtgatgc	tcgtcagggg	6000
ggcgggagct	attgaaaaac	gccagcaacg	cggccttttt	acgggtcctg	gccttttgc	6060
ggccttttgc	tcacatggct	cgac				6084

<210> 8
 <211> 6085
 <212> DNA
 <213> Homo sapiens

<400> 8						
agatcttcaa	tattggccat	tagccatatt	attcattggt	tatatagcat	aaatcaatat	60
tggctattgg	ccattgcata	cgttgttatct	atatcataat	atgtacattt	atatggcttc	120
atgtccaata	tgaccgccaat	gttggcattg	attattgact	agttattaat	agtaatcaat	180
tacgggggtca	ttagtttcata	gcccatatat	ggagttccgc	gttacataaac	ttacgggtaaa	240
tggcccgctc	ggctgcgcgc	ccaacgaccc	acgcccattg	acgtcacaata	tgactgtatgt	300
tcccatagta	acgcacaatag	ggaactttcca	ttgacgtcaa	tggtgtggagt	atttacggta	360
aaactgcccac	ttggcagtac	atcaagtgtta	tcatatgcc	agtcgccccc	ctattgagct	420
caatgaaggt	aaatggcccg	cctggcatta	tgcccagtac	atgacottac	gggaactttcc	480
tacttggcag	tacatctacg	tattagtcac	cgtctattacc	atggtgatgc	ggtttttggca	540
gtcacccaat	gggcgtggat	agcggtttga	ctcacgggga	tttccaaggt	tcaccgccat	600
tgcagctcaat	gggagtttgt	tttggcacca	aaatcaacgg	gactttccaa	aatgtcgttaa	660
caactgcgat	cgcccgcccc	gttgacgcaa	atgggcggta	ggcgtgtacg	gtgggagctg	720
tataaagca	gagctcgttt	agtgaaccgt	cagatcacta	gaagctttat	tcgggtagtt	780
tatcacagtt	aaattgtctaa	cgcagtcagt	gcttctgaca	caacagctctc	gaacttaagc	840
tgcagtgact	ctcttaattt	actccaccag	tctcaacttca	gttccttttg	cctccaccag	900
tctcaacttca	gttccctttt	catgaagagc	tcagaatcaa	aagaggaaac	caacccctaac	960
gatgatgctt	ccatgtaaat	ttgtagccag	cttccctctg	atattcaatg	tttcttccaa	1020
aggtgcagtc	tcocaaagaga	ttacgaatgc	cttggaaacc	tgggggtgct	tgsggtcagg	1080
catcaactgt	gacattccta	gttttcaaat	gagtgatgat	attgacgata	taaaatggga	1140
aaaaacttca	gacaagaaaa	agattgcaca	attcagaaaa	gagaaaagaga	cttcaaggga	1200
aaaagataca	tataagctat	ttaaaaatgg	aactctgaaa	attagcatc	tgaagaccga	1260
tgatcaggat	atctacaagg	tatcaatata	tgatacaaaa	ggaaaaaatg	tgttggaaaa	1320
aaatattgat	ttcagaagtc	aagagaggg	ctcaaaaacca	aagatctcct	ggacttgat	1380
caacacaaac	ctgacctgtg	aggtaatgaa	tggaaactgac	cccgaaattaa	acctgtatca	1440
agatgggaaa	catctaaaac	tttctcagag	ggtcatcaca	cacaagtgga	ccaccagcct	1500

gagtgc	aa	ttcaag	tgc	cagcag	gaa	caaagt	cagc	aaggaat	cca	gtgtcg	agcc	1560
tgctcag	ctgt	ccag	aaaag	ggatcc	cagg	tgagt	agggc	ccgatcc	ctc	tagagt	cgag	1620
ctctctta	ag	tgagca	aggt	tacaag	acag	gttta	aaggag	accaa	tagaa	actggg	cttg	1680
tcgagacaga	gaag	catt	ctt	gogttt	ctga	taggc	acccta	ttggt	cttac	gcggcc	cgca	1740
atttccaagct	tgagt	tatt	ctt	atcgtgt	cac	ctaaata	taact	tgogcta	taac	atggt	catat	1800
ctgtttctcgt	tgtg	aaatt	ctt	ttatcc	gctc	acaatt	ccac	acaac	atac	agccgg	gaagc	1860
ataaaagtga	aagcc	ctggg		tgcc	taatga	gtgag	ctaac	tcacat	taat	tgctgt	tgccg	1920
gatgtcttcca	ttttgt	gagg		gtta	atgctt	cgaga	agaca	tgata	agaata	cat	tgatgag	1980
tttggacaaa	tttgg	acaa	caag	aatgc	agtg	aaaaa	atgct	ttattgt	gtga	aattt	gtgat	2040
gctattgtctt	tattt	gt	taac	catt	tataag	tgca	ataaac	aagt	taacaa	caaca	attgc	2100
attcatttta	tgttt	caggt		tcagggg	gag	atgtg	gggag	ttttt	taaa	caagt	aaaaa	2160
ctctacaaat	gtgg	taaaat		cogata	aagga	tcgatt	ccgg	agcct	gaatg	gcgaat	ggac	2220
gcgcctctga	gcggc	gcgatt		aagcgc	ggcg	gggtg	gggtg	ttacg	cgac	gtgac	cgcta	2280
cacttgcacg	cgccct	agcg		cccgct	ccct	tcgctt	ctct	ccctt	ccctt	ctcg	ccacgt	2340
tcgcgcgctt	tcgcc	gtcaa		gctc	taaatc	ggggg	ctccc	tttag	gggtc	cgatt	tagtg	2400
ctttacggca	ccctc	gacccc		aaaaa	acttg	attagg	gtga	tggtt	cacgt	agt	gggcat	2460
gcgcctctga	gacgg	ttttt		cgccct	ttga	cgttg	gagtc	cacgt	ctctt	aatag	tgagc	2520
tttgttcca	aactc	ggaa	ca	acact	caacc	ctatc	ctcggt	ctattc	ctttt	gattt	aaag	2580
ggattttggc	gattt	tcggc		tattg	gttaa	aaaat	gagct	gattt	taacaa	aaatt	taacg	2640
cgaatttttaa	caaaa	tatta		acgct	ttacaa	tttcg	ctcgt	tgacct	ctctg	agccg	gaaag	2700
aaccagctgt	ggaat	gtgtg		tcagt	ttaggg	tgtg	gaaagt	cccc	agggctc	ccacg	caggc	2760
agaagtatga	aaagc	atgc	ca	tctc	aaatg	tcac	gaac	ggtg	tgaa	gtccc	agagc	2820
tcgccagcag	gcaga	agat	g	cgaa	agcatg	catct	caatt	agt	cagca	cat	agccccg	2880
ccctcaactc	gcgcc	taact	ccc	gcgcc	taact	ccgccc	agtt	ccgcc	ctaac	tcgcc	cccat	2940
ggctgactaa	ttttt	ttttat		ttatg	cagag	gcgcg	ggcg	ccctc	ggccctc	tgagct	tattc	3000
cagaagtagt	gaggg	aggtctt		ttttg	gaggg	ctaggg	ctttt	gcaaaa	agagct	tgatt	ctctc	3060
gacacaagcag	tctcgc	acatt		aaggct	atagag	ccaccat	gat	tgaa	cacagat	ggattg	tcacg	3120
caggtttctcc	ggccgc	cttgg		gtggg	agaggg	tattc	ggcta	tgact	gggca	caacag	acaa	3180
tcggctgctc	tgatc	gcgcgc		gtgtt	ccggc	tgctc	agcgca	ggggc	gcocg	gtctc	ttttt	3240
tcgaagacga	ccgtg	ccgggt		gcctg	gaatg	aaatg	cagga	cgagg	cagcg	cggtc	atcgt	3300
ggctgggccc	ga	cgggcg	ttt	ccctg	gcag	ctgtg	ctcga	cgttg	ctcact	gaagc	gggaa	3360
gggactggct	gctat	tgggc		gaagt	gcggg	ggcag	gatct	ccctg	catct	caoct	gtctc	3420
ctgccagaaa	agtat	ccatc		atggc	tgatg	caatg	cgggc	gctg	catc	gagct	ccgg	3480
ctacctgcgc	attc	gcacc	ac	caagc	gaaac	atcgc	atcga	gcgag	cagctg	actc	ggatg	3540
aagccctgct	tgctgc	atcag		gatga	ctcgg	acga	agagca	tcag	ggggctc	gcgcg	cagccg	3600
aactgttcgc	caggtc	ctaa	g	gcgcg	catgc	ccgac	gcgca	ggatc	ctcgtc	gtgac	cccatg	3660
gcgatgtcgt	cttgc	ccga		atcat	gggtg	aaaat	ggccg	ctttt	cttga	ttcat	gcact	3720
gtggcgcgct	gggtg	tgggc		gaccg	ctatc	aggac	atagc	gttg	ggctacc	cgctg	atattg	3780
ctgaagagct	tgccg	gcgca		tgggc	ctgacc	gctt	ctcgt	gctt	taacgt	atcgc	gcctc	3840
ccgattccga	gcgc	atgcgc		ttct	atgcgc	ttctt	ga	gtt	ctctga	gcggg	aaactct	3900
ggggctcgaa	atgac	ccagcc		aagcga	cgcc	caacct	gcca	tcac	gatgg	cgcaat	aaaaa	3960
tatcttttatt	ttcat	atcat		ctgtg	gtgtg	gtttt	tttgg	tgaa	agatccg	cgat	gggtgc	4020
actctcagta	caatc	ctgctc		tgatg	ccgca	tagt	taagcc	agc	cccgca	cccgcc	caaca	4080
cccgctgaag	cgccct	gcagc		ggctt	gtctg	ctccc	ggatc	ccgct	ctacag	acaa	gctgtg	4140
accgtctccg	ggagc	tgatc		gtgt	cagagg	tatt	taaccgt	catc	accgaa	acgcg	cgaga	4200
cgaaggggcc	tcgtg	atcag		ccat	ttttta	taggt	taatg	tcat	gataat	aatg	gtttct	4260
tagacgtcag	gtggc	cacttt		tcggg	gaaat	gtgcg	cgga	ccct	atattg	tttatt	ttttc	4320
taaatatcatt	caaat	tatgta		tcgcg	ctatg	agaca	ataaac	octga	taaat	gtc	taataa	4380
tattgaaaaa	ggaag	agat	g	gagt	attcaa	caatt	ccctg	tcgc	ccctt	ctc	ctttt	4440
gcggcgtattt	gcctc	ctcgt		ttttg	ctcac	ccgaa	aacgc	tggtg	aaagt	aaa	agatgct	4500
gaagatcagt	tggtg	tcacg		agtg	gggttac	atcga	aactgg	atctc	aaacag	cggt	taagatc	4560
cttgagagct	ttcgc	cccgca		agaac	gctttt	ccaat	gatga	gcact	tttaa	agtt	ctgcta	4620
tgtggcgcg	tattat	ccccg		tattg	acgcgc	gggca	agagc	aactc	cggtgc	cgcat	caaac	4680
tatctctcaga	atgact	ttggt		tgagt	tactca	ccagt	caacg	aaa	agactct	tacgg	atggc	4740
atgacagctaa	gaga	attatg		cagtg	ctgc	ata	accatga	gtga	ataac	tcggc	cccaac	4800
ttacttctga	caac	gatcgc		aggac	ccgaag	gagct	aaacgc	ctt	tttgc	caacat	ctggg	4860
gatcatgttaa	ctcgc	cttga		tcgtt	gggaa	ccggag	ctga	atga	agccat	acca	aacgac	4920

gagcgtgaca	ccacgatgcc	tgtagcaatg	gcaacaacgt	tgcgcaaaact	attaactggc	4980
gaactactta	ctctagcttc	ccggcaacaa	ttaatagact	ggatggaggc	ggataaagt	5040
gcaggacac	ttctgcgctc	ggcccttcg	gctggctgg	ttattgtcga	taaatctgga	5100
gcggtgtagc	gtgggtctcg	cggtatcatt	gcagcactgg	ggccagatgg	taagccctcc	5160
cgtatcgtag	ttatctacac	gacggggagt	caggcaacta	tggatgaacg	aaatagacag	5220
atcgctgaga	taggtgcctc	actgattaa	catttggtaac	tgtcagaccca	agtttaactca	5280
tataactttt	agattgattt	aaaaactcat	ttttaattta	aaaggatcta	ggtgaagatc	5340
ctttttgata	atctcatgac	caaaaactcc	taacgtgagt	tttcgttcca	ctgagcgtca	5400
gaccccgtag	aaaagatcaa	aggatctctc	tggagatcctt	ttttctctcg	ctgaactctgc	5460
tgcttgcaaa	caaaaaaac	accgtatcca	gctgggtgtt	gtttgcgcga	tcaagagcta	5520
ccaactcttt	ttccgaaggt	aactggcttc	agcagagcgc	agataccaaa	tactgtcctt	5580
ctagtgtagc	cgtagttagg	ccaccacttc	aagaactctg	tagcaccgcc	tacatacctc	5640
gctctgctaa	tcctgtttacc	agtggtctgt	gccagtggcg	ataagtctgt	tcttaccggg	5700
ttggactcaa	gacgatagtt	accggataag	gcgcagcggt	cggtctgaac	gggggggtcg	5760
tgcacacagc	ccagcttgga	gcgaacgacc	tacaccgaac	tagatatcct	acagcgtgag	5820
ctatgagaaa	gcgcacgcct	tccgaaggg	agaaaaggcg	acaggtatcc	ggttaagcgc	5880
agggctggaa	cagggaagcg	cacgaggagg	cttccagggg	gaaacgcctg	gtatctttat	5940
agtcctgtcg	ggttctgcga	cctctgactt	gagcgtcgat	ttttgtgtag	ctcgtcaggg	6000
ggcgcgagcc	tatggaaaaa	cgcagcaaac	gcggcctttt	tacggttcct	ggccttttgc	6060
tggccttttg	ctcacatggc	tcgac				6085

<210> 9
 <211> 6086
 <212> DNA
 <213> Homo sapiens

<400> 9						
agatcttcaa	tattggccat	tagccatatt	atctcattgt	tatatagcat	aaatcaatat	60
tggtctattg	ccattgcata	cgttgatctc	atatcataat	atgtacattt	atatgggctc	120
atgtccaata	tgaccgccat	gttggcattg	attattgact	agttattaat	agtaatacat	180
taogggggtca	ttagtttccg	gcccatatat	ggagttccgc	gttacataac	ttacgggtaaa	240
tgccgcgcct	ggctgcacgc	ccaacgaccc	cgcgccattg	acgtcaataa	tgactgtatgt	300
tcctcatagta	acgcacatag	ggaactttcca	ttgacgtcaa	tggttggagt	atttacggta	360
aactgccacc	ttggcagtag	atcaaagtga	tcatatgcc	agtcgccccc	ctattgacgt	420
caatgacggt	aaatggcccg	cctggcatta	tgcccagtag	atgaccttac	gggaactttcc	480
tacttggcag	tacatctacg	tattagtcac	cgcattatcc	atggtgatgc	gggtttggca	540
gtacacaaat	ggcgctggat	agcgggttga	ctcacggggg	tttccaaagt	tcacccccat	600
tgacgtcaat	gggagtttgt	tttggcacca	aaatcaacgg	gactttccaa	aatgtcgtaa	660
caactgcgat	cgcgcgcgcc	gttgacgcaa	atgggcggta	ggcgtgtacg	gtgggagctg	720
tataataagc	gagctcgttt	agtgaaacgt	cagataccta	gaagctttat	tgccgttagtt	780
tatcacagtt	aaattgtctaa	cgcagtcagt	gcttctgaca	caacagttct	gaacttaagc	840
tgcagtgact	ctcttaatta	actccaccag	tctcaactca	gttccttttg	cctccaccag	900
tctcaactca	gttctttttg	catgaagagc	tcagaatcaa	aagaggaaac	caacccttaa	960
gatgagcttt	ccatgtaaat	ttgtagccag	cttctctctg	attttcaatg	ttcttccaaa	1020
aggtgcagtc	tccaaagaga	ttacgaatgc	cttggaaaac	tggtgtgcct	tgtgtcagga	1080
ctcaactctg	gacatctcta	gttttcaaat	gagtgatgat	attgacgata	taaaatggga	1140
aaaaacttca	gacaagaaaa	agattgcaca	attcagaaaa	gagaaaagaga	ctttcaagga	1200
aaaagataca	tataagctat	ttaaaaatgg	aactctgaaa	attaagcatc	tgaagaccga	1260
tgtacaggt	atctacaagg	tatcaatata	tatcacaaaa	ggaaaaaatg	tgttggaaaa	1320
aatatttgat	ttgaagattc	aagagagggg	ctcaaaaaca	aagatctcct	ggacttgtat	1380
caacacaccc	ctgacctgtg	aggtaatgaa	tggaaactgac	cccgaaatta	acctgatcata	1440
agatgggaaa	catctaaaaa	ttctctcag	ggctcatcac	cacaagctga	ccctcagctc	1500
gagtgcaaaa	ttcaagtcca	cagcaggggg	caaagtccgc	aaggaatcca	gtgtcgagcc	1560
tgtcagctgt	ccagagaaa	ggatccacag	gtgagtaggg	ccgactcctt	ctagatcgca	1620
gctctcttaa	ggtagcaagg	ttacaagaca	ggtttaagga	gaccaataga	aactgggctt	1680
gtcgagacag	agaagactct	tgcttttctg	ataggcacct	attgggtcta	cgcgcgcgcg	1740

aattccaagc	ttgagtattc	tatcgtgtca	cctaaataac	tggcgtaat	catggctata	1800
tctgttttcc	gtgtgaaatt	gttatccgct	cacaattcca	cacaacatcac	gagccggaag	1860
cataaagtgt	aaagccctggg	gtgcctaagt	agtgagctaa	ctcacattaa	ttgcgttgccg	1920
cgatgtctcc	atctttgtgag	ggttaatgct	tcgagaagac	atgataagat	acattgtatga	1980
gtttgggcaa	accacaacaa	gaatgcagtg	aaaaaaatgc	tttattttgtg	aaattttgtga	2040
tgtcattgct	ttattttgtaa	ccattataag	ctgcaataaa	caagtttaaca	acaaacaaattg	2100
cattcattttt	atgttttcagg	ttcagggggg	gatgtgggag	gttttttaaa	gcaagtaaaa	2160
cctctacaaa	tgtggtaaaa	tcgcataagg	atcgattccg	gagcctgaat	ggcgaatgga	2220
cgcgcctctg	agcggcgcat	taagcgcggc	gggtgtgggtg	gttacgcgcga	ctgtgacgct	2280
acacttgcca	gcgcctctage	gcgcctctct	ttcgctttct	tcctctcctt	ttgcgccacg	2340
ttcgcgcgct	ttccccgtca	agctctaaat	cgggggctcc	ctttagggtt	ccgatttagt	2400
gctttacggc	acctcgaccc	caaaaaactt	gattagggtg	atggttcacg	tagtgggcca	2460
tcgcgcctgat	agacgggtttt	tcgccttttg	acgttggagt	ccacgttctt	taattagtga	2520
ctcttgttcc	aaacttggaac	aacactcaac	cctatctcgg	tctattcttt	tgatttataa	2580
gggattttgc	cgatttcggc	ctatttggtta	aaaaatgagc	tgatttaaca	aaaatttaac	2640
gcgaatttta	acaaaatatt	aacgcttaca	atttcgcctg	tgtaacctct	gagcgcgaaa	2700
gaaccagctg	tggaaattgt	gtcagttagg	gtgtggaag	tcgccaggct	ccccagcagg	2760
cagaagctgt	caaaagcatc	atctcaatta	gtcagcaacc	agggttgtaa	agtcgccagg	2820
ctccccagca	ggcgaagata	tgcaaaagcat	gcatctcaat	tagtccagcaa	ccatagctccc	2880
ctcccttaact	cgcgccatcc	cgcgccctaac	tcgcgccagt	ctgcgcccca	ctccgcccca	2940
tggtgtgacta	atttttttta	tttatgcaga	ggccgaggcc	gcctcgccct	ctgagctatt	3000
ccagaagttag	tgaggaggct	tttttggagg	cctaggcttt	tgcaaaaagg	ttgatttctc	3060
tcgacaacaa	gtctcggaact	taaggctaga	gccaccatga	ttgaacaaga	tgagttggac	3120
gcaggtttctc	cggccgcgtt	gggtggagagg	ctatttcggct	atgaactgggc	acaaacagca	3180
atcggtgtct	ctgatttcggc	cgtgttcggg	ctgtcagcgc	agggggcgccc	gttctttttt	3240
gtcaagacgc	acctgttcggg	tgccctgaat	gaactgcagg	acgagagcagc	gcggctatcg	3300
tggtctggcca	cgaaggcgct	tccttgcgca	acgttgtctcg	acgttgtcac	tgaaogcgga	3360
agggactggc	tgtctattggg	cgaagtgcgc	gggcaggatc	tcctgtcatc	tcactgtgct	3420
cctgccgaga	aagtattccat	catggctgat	gcaatgcggc	ggctgcatac	gcgttagtcg	3480
gtacacctgcc	cattcgacca	ccaagcgaaa	catcgcatcg	agcgagcacg	tactcggaatg	3540
gaagccggtc	ttgtcgatca	ggatgatctg	gaocgaagagc	atcaggggct	cgcgccagcc	3600
gaactgttgc	caggctcaaa	ggcgcgatg	ccgcagcgcg	aggatctcgt	ctgcacccat	3660
ggcgatgcct	gcttgcggaa	tatcatggtg	gaaaatggcc	gctttctctg	atccatcgac	3720
tgtggccggc	tggtgtgggg	ggaccgcctat	caggacatag	cgttggtcat	ccgtgatatt	3780
gctgaagagc	ttggcgcgga	atgggctgac	tgctttctcg	tgcttccgct	tactgcgcct	3840
cccgattcgc	agcgcatacg	cttctatcgc	cttcttgacg	agttctctctg	agcgggaactc	3900
tggggttcga	aatgacogag	caagcgacgc	ccaacctgcc	atcacgatgg	cgcgaataaa	3960
atatctttat	tttcattaca	tctgtgtgtt	ggttttttgt	gtgaagatcc	gcgtatgggtg	4020
caactctcagt	acaaattctgt	ctgatgcgcg	atagtttaagc	cagcccccagc	acccgcacca	4080
acccgtgac	gcgcctcgac	gggtttgtct	gctcccggca	tcgctttaca	gacaaagctgt	4140
gcacgtctcc	gggagctgca	tgtgtcagag	gttttcaacg	tcatacacga	aaocgcgag	4200
acgaaggggc	ctcgtgatca	gcctattttt	ataggtttaat	gtcatgataa	taatgggttc	4260
ttagaactca	gggtgcactt	ttcggggaaa	tgtgcgcgga	acccctattt	gtttattttt	4320
ctaaattacat	tcaaatattgt	atccgctcat	gagacaataa	ccctgataaa	tgcttcaata	4380
atattgaaaa	aggaagagata	tgagtattca	acatttccgt	gtcgcctcta	ttcccttttt	4440
tcgcgcattt	tgccctctctg	tttttgcctc	cccagaaaacg	ctggtgaaaag	taaaagctgc	4500
tgaagatcag	ttgggtgcac	gagtggtgta	catcgaaactg	gatctcaaca	gcggtaaaagt	4560
ccttgagagt	tttgcgcccg	aagaaactgtt	tccaatgatg	agcaatttga	aagttctcgt	4620
atgtggcgcg	gtattatccc	gtattgacgc	cgggcaagag	caactcggct	gcgcataaca	4680
cttctcagc	aattgaacttg	ttgagtactc	accagtcaca	gaaaagcatc	ctccggatgg	4740
catgacagta	agagaattat	gcagtgctgc	cataaacatc	agtgataaca	ctcgggccaa	4800
cttactctctg	acaaacgatcg	gaggacgcga	ggagctaac	gcttttttgc	acaaactggg	4860
ggatcagctg	actcgccttg	atcgttggga	accggagctg	aatgaagcca	taccacaaga	4920
cgaagctgac	accacgatgc	ctgtagcaat	ggcaacacacg	ttgcgcacac	tattaaactgg	4980
cgaactactt	actctagctt	cccgccaaca	attaatagac	tggtatggag	cggataaaagt	5040
tgcaggacca	cttctgcgct	cggcccttcc	ggctggctgg	tttattgtcg	ataaatctcg	5100
agccggtgag	cgtgggtctc	gggttatcat	tcgacagctg	gggcacagatg	tgaagccctc	5160

```

ccgtatcgta gttatctaca cgacggggag tcaggcaact atggatgaac gaaatagaca 5220
gatcgctgag atagggtgct cactgattaa gcattggtaa ctgtcagacc aagtttactc 5280
atatatactt tagattgatt taaaacttca tttttaattt aaaaggatct aggtgaagat 5340
cctttttgat aatctcatga ccaaaatccc ttaacgtgag ttttcgttcc actgagcgtc 5400
agaccccgta gaaaagatca aaggatcttc ttgagatcct tttttctgc gcgtaatctg 5460
ctgcttgcaa acaaaaaaac caccgttacc agcgggtggt ttgtttgcgg atcaagagct 5520
accaactctt ttccgaagg taactggctt cagcagagcg cagataccaa ataactgtct 5580
tctagtgtag ccgtagttag gccaccactt caagaactct gtagaccgc ctacatacct 5640
cgctctgcta atcctgttac cagtggctgc tgccagtggc gataagtcgt gctttaccgg 5700
gttggaacta agacgatagt taccggataa ggcgagcgcg tcgggctgaa cgggggggtc 5760
gtgcacacag ccacgcttgg agcgaacgac ctacacgaa ctgagatacc tacacgctga 5820
gctatgagaa agcgccacgc ttccgaagg gagaaggcg gacaggtatc cggtaacgg 5880
cagggtcgga acaggagagc gcacgagggg gcttccagg ggaacgcct ggtatcttta 5940
tagtcctgtc ggggttcgcc acctctgact tgagcgtcga tttttgtgat gctcgtcagg 6000
ggggcggagc ctatggaata acgccagcaa cgcggccttt ttacggttcc tggccttttg 6086
ctggcctttt gctcacatgg ctcgac

```

<210> 10

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<221> modified_base

<222> (29)..(32)

<223> a, c, t, g, other or unknown

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 10

tttttttttt ttctgcagcg gccgcacnn nntttatt 38

<210> 11

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 11

cagatcacta gaagctttat tgcgg 25

<210> 12

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 12	
ttttcgtcag cgccgcgc	20
<210> 13	
<211> 45	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: Synthetic oligonucleotide	
<400> 13	
actcataggc catagaggcc tatcacagtt aaattgctaa cg	45
<210> 14	
<211> 43	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: Synthetic oligonucleotide	
<400> 14	
ctcggttagt gcggccgctc agatcactga attctgacga cct	43
<210> 15	
<211> 41	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: Synthetic oligonucleotide	
<400> 15	
ctcggttagt ggcgcgccag atcactgaat tctgacgacc t	41
<210> 16	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: Synthetic oligonucleotide	
<400> 16	
gacctactga ttaacggcca ta	22

<210> 17
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 17
 tcgtcagaat tcagtgatct

20

<210> 18
 <211> 6836
 <212> DNA
 <213> Homo sapiens

<400> 18
 agatcttcaa tattggccat tagccatatt attcattggt tatatagcat aaatcaatat 60
 tgggtattgg ccaattgcata cgttgatctc atatcataat atgtacattt atattggctc 120
 atgtccaata tgaccgcatt gttggcattg attattgact agttattaat agtaatacat 180
 taacggggta ttagttcata gcccatatat ggagttccgc gttacataac ttacggtaaa 240
 tggcccgctt ggctgaccgc ccaacgaccc ccgcccattg acgtcaataa tgacgtatgt 300
 tcccatagta acgccaatag ggaactttcca ttgacgtcaa tgggtggagt atttacggta 360
 aactgccacc ttggcagtac atcaagtgtg tcatatgcca agtccgcccc ctattgacgt 420
 caatgacggg aaatggcccg cctggcatta tggccagtaac atgaccttac gggactttcc 480
 tactttgcag tacactctacg tattagtcac cgctattacc atggtgatgc ggttttgcca 540
 gtacacaaat gggcgtggat agcgggttga ctcaaggga ttccaagtc tccaccccat 600
 tgacgtcaat gggagtttgt tttggcacca aaatcaacgg gactttccaa aatgtcgtaa 660
 caactgcgat cgcgccgccc gttgacgcaa atgggcggtg ggcgtgtacg gtgggaggtc 720
 tatataagca gagctcgttt agtgaacogt cagataccta gaagctttat tgcggtatgt 780
 tatcacagtt aaattgctaa cgcagtcagt gcttctgaca caacagttcc gaacttaagc 840
 tgcagtgact ctcttaaatc caccatggct acaggtgagt actcggatct agcgcgtat 900
 gcgttgatgc aatttctatg cgcacccggt ctccgagcac tgcctgaccc ctttggccgc 960
 cgcccgctcc tgcctcgttc gctacttgga gccactatcg actacgcgat catggcgacc 1020
 acacccgctc tbtggatcct ctacgcggga cgcctcgtgg ccgcatcac ccgcccacca 1080
 ggtgcgggtg ctggcgccata tatcgccgac atcaccgatg gggagaatgc ggcctcgacc 1140
 ttccgggtca tgagcgtctg tttcggctct cttaaaggtg cagatccttg ctagagtoga 1200
 ccaattctca tgtttgcagc cttatcatcg cagatcctga gcttgtatgg tgcactctca 1260
 gtacaaactg cctctgctgc gcatagttaa gccagtatct gctccctgct tgtgtgttgg 1320
 aggtcgctga gtagtgcgag agcaaaattt aagctacaac aaggcgaagg ttgaccgaca 1380
 attgcataaa gaattcgtct aggggttaggc gttttgcgt gcttcgcgat gtcacggcca 1440
 gatatacgcg tatctgaggg gactagggtg aggtatagtt agtttcgctt ttgcataagg agggggaaat 1500
 acgcggttag gaggctccctc tgtagtcttg caacatggtt acgatgagt gcaacatgc 1560
 gtatctctat gcaatacaact acogtgcatt cagattggtg gaagtaaggt ggtacgatcg 1620
 cttacaagga gagaaaaagc agacaggtct gacatggatt ggaagcaacca ctgaattccg 1680
 tgcctatta ggaaggcaac agacaggtct gacatggatt ggaagcaacca ctgaattccg 1740
 cattgcagag ataattgtat ttaagtgcct agctcgatac aataaacgcc atttgacct 1800
 tcaccacatt ggtgtgcacc tccaagctgg gtacacagct taagctcoga gacgcgtgat 1860
 ttctctcgaa gctgtgtcatg gttggttcgc taaactgcat cgtcgtgctg tccagaaaca 1920
 tgggcacgga caagaaacgg gacctgccct ggccacgcgt caggaaatga ttacagatt 1980
 tccagagaaat gaccacaacc tcttcagtag aaggttaaca gaactcgggt attatgggta 2040
 agaaagactg gttctccatt cctgagaaga atcgacattt aaagggtgata attaatctag 2100
 ttctcagcag agaactctaa gaaacctcac aaggagctca tttctttccc agaagctag 2160
 atgatgcctt aaaaactact gaacaacacg aatttagcaa taaagttagc atggtctgga 2220
 tagttgggtg cagttctgtt tataaggaag catgaaatca ccagggccat cttaaacctat 2280

ttgtgacaa	gatcatgcaa	gactttgaaa	gtgacacgtt	ttttccagaa	attgatttgg	2340
agaaatataa	actctctgca	gaatacccgag	gtgttctctc	tgatgtccag	gaggagaaa	2400
gcatttaagta	caaaatttgaa	gtatatgaga	agaatgatta	atcgatctta	agttaaactc	2460
tccocggggg	tacoggtgac	tgocggcgcg	aattccaaagc	tgtagatttc	tatcgtgtga	2520
ctcaataaac	ttggcgtaat	catggtcata	tctgtttcct	gtgtgaaaat	gttatccogt	2580
cacaattcca	cacacacatac	gagocgggaag	cataaaagtg	aaagcctcggg	gtcgcaaatg	2640
agtgagctaa	ctcaacttaa	ttgcgttgcg	cgatgcttcc	attttgtgag	gggttaactg	2700
tcgagaagac	atgatagaat	acattgatga	gtttggacaa	accacaaacaa	gaatgcagtg	2760
aaaaaattgc	ttattttgtg	aaattttgtga	tgctatttgc	tattttgttaa	ccattataag	2820
ctgcaataaa	caagttaaaca	acaacaattg	catctatttt	atgtttcagg	tacggggtag	2880
gatgtggggg	gttttttaaa	gcaagtaaaa	cctctacaaa	tgtggtataaa	tccgataaag	2940
atcgattccg	gagcctgaat	ggcgaatgga	cgcgccctgt	agcggcgcat	taagcgcggc	3000
gggtgtgggtg	gttacgcgca	cgtgaccgct	acacttgcca	gcgcctcagc	gcccgctcct	3060
ttcgctttct	tccttctcct	tctgcgccag	tctgcgggct	ttcccgctca	agctctaaat	3120
cgggggctcc	ctttagggtt	ccgatttagt	gctttacggc	acctcgacc	caaaaaactt	3180
gattagggtg	atggttcaag	tagtgggcca	tcgcctgat	agacggtttg	tcgccotttg	3240
acgttgaggt	ccacgttctt	taatagtga	ctcttgttcc	aaactggaac	acactcaaac	3300
cctatctcgt	tctattcttt	tgatttataa	gggattttgc	cgattttcgc	tattgtgtta	3360
aaaaatcgct	tgatttaaca	aaaatttaac	gcgaatttta	acaaaatatt	aacgcttaca	3420
attttgcgtg	tgtacctctg	gaggcgga	gaaccagctg	tgsaattgtg	tcagttagg	3480
gtgtggaag	tccccaggct	ccccaggagg	cagaagtatg	caaagcatgc	atctcaatta	3540
ctcagcaacc	aggtgtggaa	agtcceccag	ctccccagca	ggcagaagta	tcgcaaaagc	3600
gcatactcaat	tagtcaagaa	ccatagctcc	gcctctaac	gcctccatcc	gcctccatac	3660
tcgcgccagt	tcgcgccatt	ctccgcacca	tggctgacta	atttttttta	tttatgcaga	3720
ggcgcaggcc	ctcgagctatt	ctcagaagtg	ccagaagtag	tgaggaggct	tttttggagg	3780
cctaggcttt	tgcaaaaage	ttgattcttc	gcacacaaca	gtctcgaaat	taaggctaga	3840
gccacattga	ttgcaacaaga	tggattgcac	cgcaggttctc	cgcccgcttg	ggttgagagg	3900
ctattcggct	atgactgggc	acaacagaca	atcggtgctc	ctgatgccgc	cgtgttccgg	3960
ctctgcacgc	aggggcggcc	ggttcttttt	ctcaagaccg	acctgtccgg	tgccctgaat	4020
gaactgcagg	acgaggcagc	cgccgtatcg	tggctggcca	cgacggcgct	tccttgccga	4080
gctgtgctcg	acgttgtcac	tgaagcggga	agggactggc	tgctatttgg	cgaagtgcgc	4140
gggcaggatc	tctctgtcac	tcaccttgc	cctgccgaga	aagtatccat	catcgctgat	4200
gcaatcgcg	ggctgcatac	gcttgatccg	ctacacctgc	cattcgacaa	ccaagcgaaa	4260
catcgatcgc	atcgagcagc	tactcggatg	gaagccggtc	ttgtcgatca	ggatgatctg	4320
gacgaagagc	atcaggggct	cgcgccagcc	gaactgttcg	ccaagctcaa	gcgcgcgatg	4380
cccgcaggcg	aggatctcgt	cgtgacccat	ggcgatgctc	gcttgccgaa	tatcatgggt	4440
gaaaatggcc	gcttttctgg	attcatcgac	tgtggccggc	tgggtgtggc	ggacgcgtat	4500
caggacatag	cgttggtctac	ccgtgatatt	gctgaagagc	ttggcggcga	atggcctgac	4560
cgtctctcgc	tgctttacgg	tatcgccgct	cccgattcgc	agcgcacgc	ctctcatcgc	4620
ctctctgacg	agttctctcg	agcgggactc	aatgacgcag	taatgacgcag	caagcagcgc	4680
ccaacctcgc	atcacgatgg	ccgcataaaa	atatctttat	tttcattaca	ctctgtgtgt	4740
ggttttttgt	gtgaagatcc	gcgtatgggt	acctctcagt	acaattctgc	ctgatgcgcc	4800
atagttaagc	cagcccccagc	acccgccaac	acccgctgac	gcgcctgac	gggtctgtct	4860
gctcccgcga	tcctgttaac	gacaagctgt	gaacctctcc	gggagctgca	tgtgtcagag	4920
gttttcacgc	tcatacaccga	aacgcgcgag	acgaagaaggc	ctcgtgatac	gcctattttt	4980
ataggttaat	atgctgataa	taatggtttc	ttagacgtca	ggtggcaact	ttgggggaaa	5040
tgtgcgcgga	acccctattt	gtttattttt	ctaaatacat	tcaaatatgt	atccgctcat	5100
gagacataaa	ccctgataaa	tgcttcaata	atattgaaaa	aggaagagta	tgaattacca	5160
accattccgt	tgccgcttca	ttcccttttt	tgcggcattt	tgccctcctg	ttttgtctca	5220
cccgaaaacg	ctgggtgaag	taaaagatgc	tgaagatcag	agtggtggta	gagtggtgta	5280
catcgaaactg	gatctcaaca	gcggtaagat	ccttgagagt	tttcgccccg	aagaacggtt	5340
tccaatgatg	agacatttta	aagtctcgtc	atgtggccgc	gtattatccc	gtatctgaec	5400
cgggcgaagc	caactcggtc	gcgcataaca	ctattctcag	aatgaacttg	ttgagtactc	5460
accagtcaca	gaaaagcatc	ttacggatgg	catgacagta	agagaattat	gcagctgcgc	5520
cataaaccat	agtgataaca	ctcagcgcaa	cttactctg	acaacgatgc	gaggaccgaa	5580
ggagctcaacc	gcttttttgc	acaaacatggg	ggatcatgta	accgcctctg	atcgttggga	5640
acggagatgc	aatgaagcca	taccaaacga	cgaagcgtgac	accacgatgc	ctgtagcaat	5700

ggcaacaacg	ttgcgcgaac	tattaactgg	cgaaactact	actctagctt	cccgggcaaca	5760
attaatagac	tggatggagg	cggataaagt	tgcaggacca	cttctgcgct	cgggccctccc	5820
ggctggctgg	tttatctgtg	ataaatctgg	agccgggtgag	cgtgggtctc	cggtgatcat	5880
tgacgacgtg	ggggccagatg	gtaagccctc	ccgtatcgta	gttatctaca	cgacggggag	5940
tcaggcaact	atggatgaac	gaaatagaca	gatcgctgag	ataggtgcct	cactgattaa	6000
gcattggttaa	ctgtcagacc	aagtttactc	atatatactt	tagattgatt	taaaactcca	6060
tttttaattt	aaaaggatct	aggtgaagat	cctttttgat	aatctcatga	ccaaaatccc	6120
ttaacgtgag	tttttctgtc	actgacgctc	agaccocgta	gaaaagatct	aaggatcttc	6180
tttgagatct	ttttttctgc	gcgtaatctg	ctgcttgcaa	acaaaaaac	caccgctacc	6240
agcggtggtt	tgtttgcggg	atcaagagct	accaaactct	tttccgaatg	taactggttt	6300
cagcagagcg	cagataccaa	atactgtcct	tctagtgtag	ccgtagttag	gccaccactt	6360
caagaactct	gtagcaccgc	ctacataact	cgctctgcta	atcctgttac	cagtggctgc	6420
tgccagtggc	gataagtcgt	gtcttaccgg	gttggaacta	agacgatagt	taccggataa	6480
ggcgacggcg	tcgggctgaa	cgggggggtc	gtgcacacag	ccagccttgg	agcgaaacgac	6540
ctacaccgaa	ctgagatacc	tacagcgtga	gctatgagaa	agcgccacgc	ttcccgaagg	6600
gagaaaggcg	gacaggtatc	cggtaagcgg	cagggtcgga	acaggagagc	gcacggggga	6660
gcttcaggcg	ggaaacgcct	ggtatcttta	tagtctctgt	gggtttcgcc	acctctgact	6720
tgagacgtga	tttttgcctc	gctcgtcagg	ggggcgaggc	ctatggaaaa	agcccgacaa	6780
cgcggccttt	ttacggttcc	tggccttttg	ctggcctttt	gctcacatgg	ctcgac	6836

<210> 19

<211> 4644

<212> DNA

<213> Homo sapiens

<400> 19

gatcttcaat	attggccatt	agccatatta	ttcattgggt	atatagcata	aatcaatatt	60
ggctatttggc	cattgtacac	gttgtatcta	tatcataata	ttgtacatta	tattgggtca	120
tgtccaatat	gaccgccatg	ttggcattga	ttattgacta	gttattaata	gtaatcaatt	180
acggggtcat	tagttcctag	cccatatatg	gagttccggc	ttacataact	tacggtaaat	240
ggccgcgctg	gctgaccgcc	caacgacccc	cgcccatatg	cgtcaataat	gacgtatggt	300
cccatagttaa	cgccaatagg	gactttccat	tgaagtcaat	gggtggagta	tttacggtaa	360
actgcccact	ttggcagtca	tcaagtgat	catatgccaa	gtccgcccc	tattgcgtc	420
aatgtgcggt	aatggctcgc	ctggcattat	gcccagtlaca	tgaccttacg	ggaactttcct	480
acttggcagt	acatctacgt	attagtcact	gctattacca	tggtgatcgc	gtttttggcg	540
tacaccaatg	ggcgtggata	cgggtttgac	tcacggggat	ttccaaatct	ccaccccatt	600
gacgtcaatg	ggagtttgtt	ttggcaccaa	aatcaacggg	actttccaaa	atgtogtaac	660
aactgcgcat	gcccgcgccg	ttgacgcata	tgggcggtag	gcgtgtacgg	tgggagggtct	720
ataaagcag	agctcgttta	gtgaacgcgt	agatcactga	attctgacga	cctactgatt	780
aacggccata	gaggcctcct	gcagatcact	agaagcttta	ttgcggtagt	ttatcacagt	840
taaatgtcta	acgcagctcag	tgcttctgac	acaacagctc	cgaacttaag	ctgcagtgac	900
ttctttaaatt	ccaccatggc	tacaggtgag	tactcgtcac	cctaagagag	gcctatctgg	960
ccagtttagca	gtcgaaagaaa	gaagtttaag	agagccgaaa	caagcgtcca	tgagcccga	1020
gtggcgacgc	cgatcttccc	catcgggtgat	gtcggcgata	taggcgcacg	caaccgcacc	1080
tgtggcgccg	gtgatgccgg	ccacgatcgc	tcggcgctag	aggatccaca	gcacgggtgt	1140
ggtcgccatg	atcgcgtagt	cgatagtgcc	tcacagtagc	gaagcgagca	ggactggggc	1200
cgggcccaag	cggtcggaca	gtgctccgag	aacgggtgcg	ctatagaatt	gcatacaacg	1260
ataatgcgct	agatccttgc	tagagtcgag	atctgtcgag	ccatgtgagc	aaaggccccc	1320
caaaaggcca	ggaacgcgtaa	aaaggccgcg	ttgctggcgt	ttttccatag	gctccgcccc	1380
cctgacgacg	atcacaaaaa	tcgacgcgtc	agtcagaggt	ggcgaaaccc	gacaggacta	1440
taaaagatacc	aggcgtttcc	ccttggaagc	tcctcgtgct	gctctcctgt	tcggacacctg	1500
ccgcttacgc	gatacctgtc	cgcctttctc	ccttcgggaa	gcgtggcgct	ttctcatagc	1560
tcacgctgta	ggatctctcag	ttcgggtgag	gtcgttcgct	ccaagctggg	ctgtgtgcac	1620
gaaacccccg	ttcagcccga	ccgctgcgcc	ttatccggta	actatcgtct	tgagtgcact	1680
ccggtaaagc	acgacttatc	gccactggca	gcagccactg	gtaacaggat	tagcacagagc	1740
aggatgttag	cggtgtgctac	agagttcttg	aagtggtggc	ctaacatcag	ctacacatga	1800

aggacagat	ttggtatctg	cgtctctgct	aagccagtta	ccttcggaaa	aagagttggt	1860
agctctttag	ccggcaaaaca	aaccaccgct	ggtagcgggt	gtttttttgt	ttgcaagcag	1920
cagattacgc	gcagaaaaaaa	aggatctcaa	gaagatcctt	tgatcttttc	tacggggtct	1980
gacgctcagt	ggacagaaaa	ctcactgttaa	gggattttgg	tcatgagatt	atcaaaaaagg	2040
atcttcaact	agatcctttt	atcgggtgtga	aataccgcac	agatgcgttaa	ggagaaaaata	2100
ccgcatacgg	aaattgttaag	cgttaataat	tcagaagaac	tcgtcaagaa	ggcagataga	2160
ggcgatgcgc	tgcgaatcgg	gagcggcgat	acgttaaaag	acgaggaagc	ggtagcgcga	2220
tttcgccgca	agctcttcag	caatatcacg	ggtagccaac	gctatgtcct	gatagcgctc	2280
cgccacaccc	agccggccac	agtcgatgaa	tcagaaaaag	cggccatttt	ccaccatgat	2340
attcgcaacc	caggcatcgc	catgggtcag	gaagagatcc	tcgcgctcgc	gcatctcgcg	2400
cttgagcctg	gcgaacagtt	cggctggcgc	gagccctcga	tgcctctcgt	ccagatcatc	2460
ctgatcgaca	agaccgcttt	ccatccgagt	acgtgctcgc	tcgatgcgat	gtttcgcttg	2520
gtggtcgaa	gggcaggtag	ccggatcaag	cgtatgcagc	cgccgcattg	catcagccat	2580
gatggatact	ttctcggcag	gagcaagggt	agatgacagg	agatcctgcc	ccggcaactc	2640
cccacatacg	agccagtcct	ttcccgtctc	agtgacacag	tcgagcacag	ctgcgcgaag	2700
aacgcccgtc	gtggccagcc	acgatagcgc	cgtcgctcgc	tcttgcatgt	catccagggc	2760
accggacagg	tcggtcttga	caaaaaaagc	cgggcgcctc	tcgctgcgca	gcgcgaacac	2820
ggcgccatca	gagcagccga	ttgtctgttg	tgcccagtcg	tacccgaata	gacctccac	2880
ccaagcgccc	ggagaacctg	cgtgcaatcc	atcttgttca	atcatcgcaa	acgatcccca	2940
tcctgtctct	tgatcagagc	ttgatccctc	ggcccatcag	atccttggcg	gcagaaaaagc	3000
catcagttt	actttgcagg	gcttgtcaac	cttaccagat	aaaagtgtcc	atcatctggaa	3060
aaagttcaat	tcctgagcgg	aaagaaccag	ctgtggaatg	tgtgtcagtt	aggggtgtgga	3120
aagtccccag	gctccccagc	aggcagaagt	atgcaaaagca	tgcattccaa	ttagtcaagca	3180
accaggtgtg	gaaagtcccc	aggctcccca	gcaggcgaga	gtatgcgaag	catgcatctc	3240
aattagtcac	caaccatagt	cccgccctca	actccgcca	tcccgccctc	aactccgccc	3300
agctccgccc	attctccgccc	ccatggctga	ctaatttttt	ttatttatgc	agaggcccgag	3360
gcgcgctcgg	ccctctgagct	attccagaag	tagtggaggag	gcttttttgg	aggccatagg	3420
ttttgcaaaa	agcttgattc	ttctgacaca	acagttctga	acttaaggct	agagccacca	3480
tgattgaaaa	agatggattg	cacgcagggt	ctccggccgc	ttgggtggag	aggctattcg	3540
gctatgactg	ggcacaacag	acaatcggtc	gctctgatgc	cgcctgtgtc	cggctgtcag	3600
cgcagggggc	cccgtttctt	tttgtcaaga	ccgacctgtc	cggctgcctg	aatgaactgc	3660
aggacgagcg	agcgcggcta	tcgtggctgg	ccacgacggg	cgttctcttc	gcagctgtgc	3720
tcagacttgt	cactggaagg	ggaaaggact	ggctgctatt	gggcgaagtg	ccggggcagg	3780
atctcctgtc	atctcactat	gctcctgcgc	agaaagtatc	catcatggct	gatgcaatgc	3840
ggcggtctga	tacgcttgat	cgggctacct	gcccattcga	ccaccaagta	aaacatcgca	3900
tcgagcgagc	acgtactcgg	atggaagccg	gtcttgtcga	tcaggatgat	ctggacgag	3960
agcatcaggg	gctcgcgcga	gcgcgaactg	tcgccaggct	caaggcgcgc	atgcccgacg	4020
gcggagatct	cgtcgtgacc	catggcgatg	cctgcttgcc	gaatatcatg	gtggaaaaatg	4080
gcgcgttttc	tggatatcatc	gactgtggcc	ggctgggtgt	ggcgagccgc	tatcaggagca	4140
tagcgtttggc	taccctgtgat	attgtgtaag	agctttggcg	cgaattgggt	gaacggtctc	4200
tcgtgtctta	cggtatcgcc	gctcccgatt	cgcagcgaat	cgcctcttat	gcgctctctg	4260
acgacgaatt	gctgtggagg	tagcggcgcg	gctgactaat	gtgactgaat	tgagatgcgt	4320
gctttgcata	ctctcgtcgt	ctggggagcc	tggggacttt	ccacacccca	actgacacac	4380
attccacaga	tggctctcttc	cgcctcaagaa	ggatcacagg	cgaaatttga	agcgttaata	4440
ttttgttaaa	attccggtta	aatttttgtt	aaatcagctc	attttttaac	caatagccgc	4500
aaatcggcaa	aatcccttat	aaatcaaaag	aatagacoga	gataggggtg	agtgttgttc	4560
cagtttggaa	caagagttca	ctatataaga	acgtggactc	caacgtcaaa	ggcgcaaaaa	4620
cgtctatca	ggcgcatggc	ccac				4644

<210> 20
 <211> 5247
 <212> DNA
 <213> Homo sapiens

<400> 20
 gatcttcaat attggccatt agccatatta ttcatgtggt atatagcataaatcaatatt 60

ggctattggc	cattgcatac	gttgtatcta	tatcataata	tgtacattta	tattgggtca	120
tgcccaatat	gaccgccatg	ttggcattga	ttattgacta	gttattaata	gtaatcaatt	180
acgggggtcat	tagttcatag	cccatatatg	gagttccgcg	ttacataact	tacggtaact	240
ggcccgctgtg	gctgaccgcc	caacgacccc	cgcccatatga	cgtaataatg	gacgtatgtt	300
cccatagttaa	cgccaatagg	gactttccat	tgacgtcaat	gggtggagta	tttacggtaa	360
actgcccact	tggcagtaaca	tcaagtgat	catatgccaa	gtccgccccc	tattgacgtc	420
aatgacggta	aatggccgcg	ctggcattat	gcccagtaac	tgaccttacg	ggactttcct	480
acttggcagt	acatctacgt	attagtcac	gctattacca	tgggtgatgcg	gttttggcag	540
tacacccaatg	ggcggtggata	gcgggttgac	tcacggggat	ttccaaagtct	ccaccccatt	600
gacgtccaatg	ggagtttgg	ttggcaccaa	aatacaacggg	actttccaaa	atgctcgtaac	660
aactcgcatc	gcccccccg	ttgacgcaaa	tggggcggtag	gcgtgtacgg	tgggaggtct	720
atataagcag	agctcgttta	gtgaaccgtc	agatcactag	aagctttatt	gcggtagttt	780
atcacagtta	aattgctaac	gcagtcagtg	cttctgacac	aacagtctcg	aacttaagct	840
gcagtgactc	tcttaaatcc	accatggcta	caggtgagta	ctcgctacct	taagagaggg	900
ctatctggcc	agttagcagt	cgaagaaga	agtttaagag	agcogaaca	agcgtcatg	960
agcccgaa	ggcgagcccg	atcttcccca	tcggtagtgt	cgccgatata	ggcccgacga	1020
accgcacgtg	tggcccggtg	gatgcggccc	acgatcgctc	cgccgttagag	gatccacagc	1080
acgggtgtgg	tcgcctgat	cgctgagtc	atagtggctc	caagtacgga	agcgagcagg	1140
actggggcg	ggccaaagcg	gtccggcagt	gctccgagaa	cggggtcgca	tagaaattgc	1200
atcaacgcgt	atagcgtcag	atctctgcta	gagtcagagat	ctgtcgagcc	atgtgagcaa	1260
aaggccacga	aaaggccagg	aaccgtaaaa	agggcccggt	gctggcggtt	ttccataggg	1320
tcgcgcccc	tgacgagcat	cacaaaaatt	gacgctcaag	tcagaggtgg	cgaaaaccga	1380
caggactata	aagataccag	gcggtttccc	ctggaaagctc	cctcgctgcg	ttcctgtctc	1440
ctacatcgcc	gcttaaccga	tacctgtccg	cctttctccc	ttcgggaaag	gtggcgcttt	1500
cgccagctc	acgctgtagg	tatctcagtt	cggtgtaggt	cgttcgctcc	aagctggggt	1560
gtgtgcagca	accccgcgtt	cagcccgacc	gctgcgcctt	atccggtaac	tatcgctctg	1620
agtcacaaacc	ggtaacgac	gacttatcgc	agccggcagc	agccactgg	aacaggatga	1680
gcagacgag	gtattaggg	gggtctacag	agttcttgaa	gtgggtggct	aactacggct	1740
acactagag	gacagttatt	ggatatctgc	ctctgctgaa	ccgacttacc	ttcgacaaaa	1800
gagttggtag	ctcttgatcc	ggcaaacaaa	ccaccgctgg	tagccgtgg	ttttttgttt	1860
gcaagcagca	gattacgcg	agaaaaaaag	gatctcaaga	agatcccttg	atcttttcta	1920
cggggtctga	cgctcagtg	aacgaaaaact	cacgtaaaag	gattttggct	atgagattat	1980
caaaaaggat	cttccactag	atctctttat	cggtgtgaaa	taccgcacag	atgcgtaagg	2040
agaaaaatcc	gcatcaggaa	attgtaagcg	ttataaattc	agaagaactc	gtccaagaag	2100
cgatagaagg	cgatgcgctg	cgaattcgga	goggcgat ac	cgtaaaagac	gaggaataag	2160
tcagcccatt	cgcccgccag	ctcttcagca	atatcacggg	tagccaaagc	tatgtccctga	2220
tacgggtccg	ccacacccag	cgggccacag	tcgatgaatc	cgaaaaagcg	ggcattttcc	2280
accatgatat	tcgggcaagca	ggcatcgcca	tgggtcacga	cgagatcctc	gcgcgtcggg	2340
atgctcgctc	ttagcctggc	gaacagttcg	gctggcgaga	gcccctgatg	ctcttcgtcc	2400
agatcatcct	gatcgacaag	acgggcttcc	atccgagtag	gtgctcgctc	gatcgcatgt	2460
ttcgcttggt	gggtgaattg	gcaggtagcc	ggatcaagcg	tatgcagccg	ccgcattgca	2520
tacggtcaga	tggatcatctt	ctcggcagga	gcaagggtgag	atgacaggag	ctgtgcgcc	2580
ggcaactcgc	ccaatagcag	ccagtcctct	cccgcctcag	tgacaacgtc	gagcacagct	2640
gcgcgaacgc	gcgccgtcgt	ggccagccac	gatagccgcg	ctctcgtcgt	ttgcagttca	2700
ttcaggggcag	cggaaggtgc	ggctctgaca	aaaagaaccg	ggcgccctcg	cgctgacagc	2760
cggaacacgc	cggaactcaga	gcagccgatt	gtctgttgtg	ccagtcata	gccgaatagc	2820
ctctccacc	aagcgggcgg	agaaacctgcg	tgcaatccat	cttgttcaat	catcggaaac	2880
gtctctcatc	ctgtctcttg	atcagagctt	gatccctgc	gccatcagat	ccttggcgcc	2940
gagaaagcca	tccaggtttac	tttgcagggc	ttgtcaacct	taccagataa	aagtgctcat	3000
cattggaaaa	cgttcaattc	tggaggcgga	agaaccagct	gtggaatgtg	gtcagttagt	3060
gggtgtggaa	gtccccaggc	tcccccagag	gcagaagtat	gcaaaagcat	atgcgaatac	3120
atcgagcaac	caggtgtgga	aagtcgccag	gctccccgag	agggcagaagt	atgcgaagca	3180
tgcatctcaa	ttagtagcga	accatagtcc	cgcccctaac	tcgcgcccat	cgcccctaa	3240
ctccgcccag	ttccgcccac	tctccgcccc	atggctgact	aatttttttt	attttatcag	3300
agggccggcg	gcctcggccc	tctgagctat	ttccagaagta	gtgaggaggg	ttttttggag	3360
gccttaggctt	ttgcaaaaaag	cttgattctt	ctgacacac	agtcctgaac	ttaaaggctag	3420
agccaccatg	attgacaag	atggattgca	cgcaggtctc	ccggccgctt	gggtggagag	3480

gctattcgcc	tatgactggg	cacaacagac	aatcggtctc	tctgatgcgc	cgtgttccg	3540
gctgtcagcg	cagggggccc	cggttctttt	tgtcaagacc	gacctgtccg	gtgcctcgaa	3600
tgaactgcag	gacgaggcag	cgcggctatc	gtggctggcc	acgacgggcg	ttccttgcgc	3660
agctgtgctc	gacgttgtca	ctgaagcggg	aagggactgg	ctgctattgg	gcgaagtgcc	3720
ggggcaggat	ctcctgtcat	ctcaacctgc	tccctgccag	aaagtatcca	tcatggctga	3780
tgcgaatgcg	cggctgcata	cgtttgatcc	ggctacctgc	ccattcgacc	accaagcgaa	3840
acatcgcatc	gagcgagcac	gtactcggat	ggaagccggt	cttgtcgatc	aggatgatct	3900
ggacgaaag	catcaggggg	tgcgcgcagc	cgaactgttc	gccaggtctc	agggcgccat	3960
gcccgacggc	gaggatctcg	tcgtagccca	tggcgatgcc	tgcttgcgga	atatcatggt	4020
ggaaaaatggc	cgtctttctg	gattcatcga	ctgtggcccg	ctgggtgtgg	cggacogcta	4080
tcaggacata	gcgttggcta	ccogtgatat	tgtcgaagag	cttggcgcg	aatgggctga	4140
ccgcttctct	gtgctttacg	gtatcgccgc	tcccgattcg	cagcgcatcg	ccttctatcg	4200
cctctctgac	gagccattct	gctggatggc	tacaggtcgc	agccctggcg	tctgtattag	4260
tgatgatgaa	ccaggttatg	acottgatatt	attttgcata	cctaactcatt	atgctgagga	4320
tttggaagg	gtgtttatct	ctcatggact	aattatggac	aggactgaac	gtcttgcctg	4380
agatgtgatg	aaggagatgg	gaggccatca	cattgtagcc	ctctgtgtgc	tcaagggggg	4440
ctataaattc	tttgcctgac	tgtcggatta	catcaaagca	ctgaatagaa	atagtgatag	4500
atccattcct	atgactctag	attttatcag	actgaagagc	tattgtcaat	accagtcaac	4560
aggggacata	aasgtaattg	gtggagatga	tctctcaact	ttaactggaa	agaaatgctt	4620
gattgtggaa	gatataattg	acaactggcaa	aacaatgcag	actttgtctt	ccttggctag	4680
gcagtataat	ccaaagatgg	tcaaggctgc	aagcttgcgt	gtgaaaagga	ccccacgaag	4740
tgttggatat	aagccagact	ttgttggatt	tgaaatcca	gacaaagttg	ttttaggata	4800
tgcctctgac	tataactaat	acttcaggga	gtttgtgcta	gtttgtgcta	ttagtgaac	4860
tggaaaagca	aaatacaaa	cctaagcggc	cgctaaacctg	gttgcgtgact	aattgagatg	4920
catgctttgc	atactcttgc	ctgcgtggga	gcctggggac	ttccacacc	ctaaactgaca	4980
cacattccac	agctggttct	ttccgcctca	gaaggtacac	aggcgaaatt	gtaagcgcta	5040
atattttgtt	aaaaattcgc	ttaaattttt	gttaaatcag	accaaattgg	accaaattgg	5100
ccgaaatcgg	caaaatccct	tataaatcaa	aagaatagac	cgagataggg	ttgagtgtgt	5160
ttcagtttg	gaacaagagt	ccactattaa	agaacgtgga	ctccaacgtc	aaagggcgaa	5220
aaaccgtcta	tcagggcgat	ggccac				5247

```

<210> 21
<211> 5382
<212> DNA
<213> Homo sapiens

<220>
<221> modified_base
<222> (890)
<223> a, c, t, g, other or unknown

<220>
<221> modified_base
<222> (1042)
<223> a, c, t, g, other or unknown

```

<400> 21						
cacctaaatt	gtaagcgtta	atattttgtt	aaaattcgcg	ttaaattttt	gttaaatcag	60
ctcatttttt	aaccaatagg	ccgaaatcgg	caaaatccct	tataaatcaa	agaatatagc	120
cgagataggg	ttgagtgtgt	ttccagtttg	gaacaagagt	ccactattaa	agaactgtga	180
ctccaaogtc	aaagggcgaa	aaacogtcta	tcaggcgcat	ggcccactac	gtgaaccata	240
accctaatac	agtttttttg	ggtcgaggtg	cogtaaaagca	ctaaatcgga	accctaagg	300
gagcccccg	tttagagctt	gacggggaaa	gccggcgaa	gtggcgagaa	aggaaggaaa	360
gaagcgaaaa	ggagcgggcg	ctagggcgct	gcgaagtgt	gcggtcagct	tgcgcgtaac	420
caccacaccc	gccgcgctta	atgcgcgcgt	acagggcgcg	tccatttcgc	catcaggct	480
gcgaacatgt	tgggaagggc	gatcggtgcg	ggcctctctg	ctattacgcc	agctggcgaa	540

aggggggatgt	gctgcaaggc	gattaagttg	ggttaacgca	gggttttccc	agtcaacgacg	600
ttgtaaaacg	acggccagtg	aattgttaata	cgactcacta	tagggcgcaat	tgggtaccaat	660
tcaattcgtc	gaacctcgaa	ttctaccggg	taggggagcg	gcttttccca	agggcgtctg	720
gagactcgcc	tttagcagcc	ccgctgggca	cttggcgcta	cacaagtggc	ctctggcctc	780
gcacacattc	cacatccacc	ggtaggcgcc	aaccggctcc	gtcttttggg	ggccctctcg	840
gcaccaacctc	tactcctccc	ctagtccagga	agttcccccc	cgcccccgcan	ctcgcgctcg	900
gcaggacgctg	acaaattggaa	atagcacgctc	tcactagctc	cgtcgagatg	gacaaagcctc	960
gctgagcgaat	ggagcgggta	ggcctttggg	gcagcggtcca	atagcagctt	tgctccttcg	1020
ctttctgggg	tcagaggctcg	gnaagggggtg	ggtccggggg	cggggtcagg	ggcggggtca	1080
ggggcgggcg	ggggcccgca	aggtcctccg	gaggcccgcc	attctgcacg	ctccaaaagc	1140
gcacgtctcg	cgcgctgttc	tcctcttcc	catctccggg	cccttcgacc	tgcatccatc	1200
tagatctcga	gcagctgaag	cttaccatga	cagagtacaa	gcccaacggtg	cgctcgccga	1260
cccgacagca	cgtcccccg	gccgtacgca	ccctcgccgc	cgcttcgccc	gactaccgcc	1320
ccacgcgcca	cacgctcgac	ccggaccgcc	acatcgagcg	ggtcacgcag	ctgcaagaac	1380
tcttctctcac	gcgcgtcggg	ctcgacatcg	gcaaggtgtg	ggtcgcggaac	gacggcgccg	1440
cggtggcggt	ctggaccacg	ccggagagcg	tcgaaagcggg	ggcggtgttc	gccgagatcg	1500
gccccggcg	ggcgaggttg	agcggttccc	ggctggccgc	gcagcaacag	atggaaaggcc	1560
tcctggcgcc	gcacggggcc	caaggagccc	gcgtggttcc	tggcccccac	gtcgggcgctc	1620
ttcgcccgac	caccagggca	agggtctggc	aagcgccgtc	gtgctccccg	gagtgaggcg	1680
ggccgagcg	gcgggggtgc	ccgctctcct	ggagacccct	gcgccccgca	acctccctct	1740
ctacgagcg	ctcggtctca	cogtcaccgc	cgaagtgcag	gtgcccgagc	gaccgcgcac	1800
ctggtgcagt	accgcgaagc	ccggtgcctg	acgcccgcgc	cacgacccgc	agcgcgcgac	1860
cgaaaggagc	gcagcagccc	atgcattcgt	ggcactgggc	aggttaagtat	caaggttagc	1920
ggtattcctt	atctggccatt	agccatatta	ttcattgggt	atatagcata	aatacaattt	1980
ggcatctcga	cttgctcatc	gtgttatcta	tgtcataata	tgttaccatt	tatttggtcca	2040
ttgccaatat	gacgcgcattg	tgggcattga	tatttgacta	gttattaata	gtaactcaatt	2100
acggggtcat	tagttctatg	cccatatatg	gagttccgcg	ttacataaact	tacggttaaat	2160
ggcccgccgt	gctgacgcgc	caacgacccc	cgcccatatga	cgtcaataat	gacgtatggt	2220
cccatatgaa	ccccaatagg	gactttccat	tgcgttcaat	gggtggagta	tttacgggtaa	2280
actgcccaact	tggcagtcac	tcaagtgat	catatgccaa	gtccgcccc	tattgacgtc	2340
aatgacggta	aatggcccg	ctggcattat	gccagtcaca	tgaccttaag	ggaacttctc	2400
acttggcagct	acatctacgt	attagtcac	gctattacca	tggtgatcg	gttttggcag	2460
tacacocata	ggcgtggata	gcgggttgga	tcacggggat	ttccaaagct	ccaccocatt	2520
gacgtcaagt	ggagtttgtt	ttggcaccaa	aatcaacggg	actttccaaa	atgtcgtaac	2580
aactcgctac	gcgcgtcccg	ttgacgcmaa	tggcggttag	gcgtgtacgc	tgggaggtct	2640
atataagcat	agctcgttta	gtgaaccgctc	agatcactag	aagctttatt	tcggttagttt	2700
atcacagtta	aatgtctaac	gcagtcagtg	cttctgacac	aacagctcgc	aacttaagct	2760
gcagtgactc	tccttaattaa	ccaccgctac	aggtgagtac	tgggtcctgc	taacctaaaga	2820
gaggcctatc	tggccagttta	gcagtcgaag	aaagaagttt	aagagagcgc	aaacaagcgc	2880
tcatgagccc	gaagtgggca	gcccgatctt	cccatcggt	gcgtcgccgc	atagaggcgc	2940
cagcaacccg	acctgtggcg	ccggtgatgc	cggccacgat	gcgtccggcg	tagagggatc	3000
acaggacggg	tgtggtcgcc	atgatcgctg	agtcgatagt	gggtccaaagt	gcgaagcgca	3060
cgaggagctg	ggggcgccca	aagcggtcgg	acagtgctcc	gagaaacgggt	gcgcatagaa	3120
atgcatcaca	cgcatatagc	gctagatcct	tgttagagtc	gaggccgcga	cgcgggtgga	3180
gctccagctt	ttgttccctt	tagtgagggt	taatttcgag	cttggcgtaa	tcatsggtcat	3240
agctgtttcc	tgtgtgaaat	tgttatccgc	tacaaattcc	acacacacata	cgagccggaa	3300
gcataaaagtc	taaaagcctgg	ggtgcctaatt	gagtgagcta	actcacatta	attcggttgc	3360
gctcaactgc	cgctttccag	tcgggaaacc	gctcggtcca	gctgcattaa	tgaactcgcc	3420
aaacgcgggg	gagagagcgt	ttgcgttatg	ggcgctcttc	cgcttctcgc	ctcaactgact	3480
cgctcgctctc	ggtcgttcgg	ctcgccggag	cggtatcagc	tctcaaaag	gcgttaataac	3540
ggttatccac	agaattcagg	gataaacgcg	gaaagaacat	gtgagcaaaa	ggccagcaaa	3600
agggcaggaa	ccgtataaaag	gcgcggttgc	tggcgttttt	ccataggctc	ggccccctgc	3660
acgagcatca	caaaaactcga	cgctcaagtc	agaggtggcg	ccacccgcga	ggactataaa	3720
gatacaggct	tgttccccct	ggaaagctccc	ctcgtgcgctc	tctcgttcgc	accctgcgcg	3780
ttaccggata	cctgtccgcgc	tttctccctt	cgggaagcgt	ggcgctttct	catagctcac	3840
gctgtaggtta	tctcagttcg	gtgtaggtcg	tctcgtccaa	gctgggctgt	gtgcacgaac	3900
cccccgctca	gccgcagccg	tgccgcttat	cggtaactca	tcgctcttag	tccaaacccg	3960

taagacacga	cttatcgcca	ctggcagcag	ccactggtaa	caggattagc	agagcagagt	4020
atgtaggcgg	tgctacagag	ttcttgaagt	ggtggcctaa	ctacggctac	actagaagga	4080
cagtatattg	tatctgcgct	ctgctgaagc	cagttacctt	cggaaaaaga	gttgtagct	4140
cttgatccgg	caaaacaaac	accgctggta	gcggtggttt	ttttgtttgc	aagcagcaga	4200
ttacgcgcag	aaaaaaagga	tctcaagaag	atcctttgat	ttttctacg	gggtctgacg	4260
ctcagtgga	cgaaaactca	cgtaaaggga	ttttggtcat	gagattatca	aaaaggatct	4320
taccctagat	ctctttaa	taaaaatgaa	gttttaaat	aatctaaagt	atatatagat	4380
aaacttgct	tgacagttac	caatgcttaa	tcagttaggc	acctaactca	gcgatctgtc	4440
tatttctgt	atccatagtt	gcctgactcc	ccgtctgtga	gataactacg	atacgggagg	4500
gcttacccat	tgggcccgagt	gctgcaatga	taccgcgaga	cccacgtcca	ccggctccag	4560
atttatcagc	aataaaccag	ccagccggaa	gggcccagcg	cagaagtgg	ccgtcaactt	4620
tatccgcctc	catccagtc	attaatgtgt	gccgggaagc	tagagtaagt	agttcccgag	4680
ttaatatggt	gcgcaacggt	gttgccattg	ctacagggat	cgtggtgtca	cgctcgtcgt	4740
ttggtatggc	ttcattcagc	tccgggtccc	aacgatcaag	gcgagttaca	tgatccccca	4800
tggtgtgcaa	aaaagcggtt	agctccttcg	gtcctccgat	cgttgtcaga	agtaagttgg	4860
ccgagctgtt	atcactcatg	gttatggcag	cactgcataa	ttctcttact	gtcatgccat	4920
ccgtaagatg	ctttttctgt	actggtgagt	actcaaccaa	gtcattctga	gaatagtgtg	4980
tgccgcgacc	gagttgtctc	tgcccgcgct	caatacggga	taataccgcg	ccacatagca	5040
gaactttaaa	sgtgcctcat	attggaaaac	gttcttcggg	gcgaaaaactc	tcaaggatct	5100
taccgctggt	gagatcgtgc	tcgatgtaac	ccactcgtgc	accctaactga	ctctcagcat	5160
cttttacttt	caccagcggt	tctgggtgag	caaaaaacag	aaggcgaatat	gccgcataaa	5220
agggataaag	ggcgacacgg	aaatgttgaa	tactcatact	cttccctttt	caatattatt	5280
gaagcatttt	tacgggttat	gttctcatga	gcggatcacat	atttgaatgt	atttagaaaa	5340
ataaacaatt	aggggttcgg	cgcacatttc	cccgaagaag	gc		5382

<210> 22

<211> 9737

<212> DNA

<213> Homo sapiens

<220>

<221> modified_base

<222> (8347)

<223> a, c, t, g, other or unknown

<220>

<221> modified_base

<222> (8499)

<223> a, c, t, g, other or unknown

<400> 22

gatcttcaat	attggccatt	agccatatta	ttcattggtt	atatagcata	aatcaatatt	60
ggctatttgc	cattgcatac	gttgatatcta	tatcataata	tgtacattta	tattggctca	120
tgtccaatat	gaccgccatg	ttggcattga	ttattgacta	gttattaata	gtaatcaatt	180
acggggtcat	tagttcatag	cccatatagt	gagttccgcg	ttacataact	tacggtaaat	240
ggcccgcctg	gctgacgcgc	caacgacccc	cgcccattga	cgctcaataat	gacgtatggt	300
cccatagtaa	gcgcaatagg	gactttccat	tgacgtcaat	gggtggagta	tttacggtaa	360
actgcgccat	tggcagtaca	tcaagtgtat	catatgccaa	gtccgccccc	tattgacgtc	420
aatgacggta	aatggcccgc	ctggcattat	gcccagttaca	tgaccttacg	ggactttcct	480
acttggcagt	acatctcagt	attagttcat	gctattacca	tggtgatgct	gttttggcag	540
tacaccaatg	ggcgtggata	gcgggttgac	tcaacgggat	ttccaagtct	ccaacccatt	600
gacgtcaatg	ttgattttgt	ttggccacaa	aatcaacggg	actttccaaa	atgtcgtaac	660
aactgcgcat	gcccccccgc	ttgacgcaaa	tgggcggtag	gcgtgtacgg	tgggaggtct	720
atataagcag	agctcgttta	gtgaacccgt	agatcactga	attctgacga	ctctactgatt	780
aacggccata	gaggctcctc	gcgaactctg	cttagtgaca	actatcgatt	tccacacatt	840
atacagagccg	atgtttaattg	tcaacagctc	atgcatgacg	tcccgggagc	agacaagccc	900

gaccatcggtc	cgagtaatac	gactcactat	aggcgacagc	gtgagtactc	gctacacctaa	960
ggcctatctgc	gcgcgtttaa	cgatgtgtga	taagagacag	ctctcttaag	gtagcctgtc	1020
tcttatacac	atctagatcc	ttgcgtagagt	cgaccaattc	tcagtgttga	cgctctatca	1080
cgccagatcc	tgagcttgta	tgggtgcaact	tcagtaacat	ctgctctgct	cgccgcatagt	1140
taagccagta	tctgctccct	gcttgtgtgt	tggaggctgc	tgagttagtg	cgcgagaaaa	1200
tttaagctac	aaacaaggca	ggcttgacgc	acaattgcgt	gaagaatctg	cttaggggta	1260
ggcgcttttgc	gctgctctgc	gatgtacggg	ccagatatac	gcgtatctga	ggggacttagg	1320
gtgtgttttag	gcgcgcagcg	gggcttcggg	tgtacgcggg	tagggatccc	ctcaggatat	1380
agtagattctg	ctttttgcata	gggaggggga	aatgtagctc	tatgcaatac	acctgtagtc	1440
tgtcaacatg	gtaacagatga	gttagcaaca	tgccttcaaa	ggagagaaaa	agccagctgc	1500
atgcccattg	gtggaagtaa	gggtgtacga	tcgtgcotta	ttaggaaagg	aacagacagg	1560
tctgacatgg	attggacgaa	ccactgaatt	ccgcattgca	gagataattg	tatttaagtg	1620
cctagctcga	tacaataaac	gcoatttgac	cattccaccg	attggtgtgc	acctccaagc	1680
tgggtaccag	ctgctagcct	cgagacgcgt	gatttccttc	gaagcttgct	atgggtgggt	1740
cgctaaactg	catcgctcgt	gtgtcccaga	acatgggcgt	cggaagaagc	ggggacctgc	1800
ctctggccacc	gctcaggaat	gaattcagat	atttcagag	aatgaccaca	acctcttcag	1860
tagaaggtaa	acagaaatcg	gtgattatgg	tgaagaagac	ctgggtctcc	attcctgaga	1920
agaaatcgacc	tttaaagggt	agaattaatt	tgtttctcag	cagagaacct	aaggaaacct	1980
ccaagaggagc	tcattttctt	tcocagaagtc	tagatgatgc	cttataaaact	actgaacaca	2040
cagaaattagc	aaataaaagt	gacatggctc	ggatagttgg	tggcagttct	gtttataagg	2100
aaagccatgaa	tcacccaggc	catcttaaac	tatttgtgac	aaggatcatg	caagaccttg	2160
aaagtgcacac	gttttttcca	gaaattgata	tgggagaata	taaaactctg	ccagaatacc	2220
caggtgttct	ctctgatgtc	caggaggaga	aaaggcattaa	gtacaaatt	gaagtatatg	2280
agaagaattg	taattaaagg	accacataac	tgccttaaaa	aaattacgcc	cgccctgcgc	2340
acctcatcgca	gtactgttgt	aattcattaa	gcattctgcg	gcagatgaa	gcacacacaga	2400
cgccgatgatg	aacctgaatc	gccagcgggc	tcagcacctt	ctgcgcttgc	gtataaatt	2460
tgtcccatggt	gaaaaacggg	gcgaagaagt	tgtccatatt	ggccacgttt	aaatcaaaac	2520
tggtagaact	caccacaggga	tggctcgaga	cgaaaaacat	attctcaata	aacctcttag	2580
ggaaataggc	cagggtttcca	ccgtaaacgc	ccacatcttg	ccatataatg	tgtagaaact	2640
gcgcggaatc	gtcgtggtat	tcactccaga	gcgatgaaaa	cgtttcagtt	tgctcatgga	2700
aaacgggtgta	acaagggtga	acaactatcc	atatccacag	ctcacogctc	ttcattggca	2760
tacgggaatc	cggatgagca	ttcatcaggc	gggcaagaat	gtgaataaag	gcgcgataaa	2820
acttgctgct	attttctctt	acggctctta	aaaaggcggt	aatatccag	tgaacggtct	2880
ggttataggt	acattgagca	actgactgaa	atgcctcaaa	atggtcttta	cgatgccatt	2940
gggatatatc	aacggtggta	tatccagtga	ttttttctc	cattttagct	ctctagctc	3000
ctgaaaatct	cgataactca	aaaaatacgc	ccggtagtga	tcttatttca	ttatggtgaa	3060
agttggaacc	tcttaactgc	cgatcaacgt	ctcattttgc	ccaaattaat	taaggccgcg	3120
cgctctcctc	gctaggagtc	acgtagaaag	gactaccgac	gaaggaaact	gggtcgccgg	3180
tgtgttcgtg	tatggaggta	gtaagacctc	cctttacaac	ctaaggcgag	gaactgcctc	3240
tgctattcca	caatgtctgc	ttacaccatt	gagtctgtc	ccctttgtaa	tggccctgtg	3300
accocggcca	caacctggcc	cgctaaggga	gtccattgtc	tgttatttca	tgttcttttt	3360
acaaactcat	atatttgtctg	aggttttgaa	ggatgcgatt	aaggaccttg	ttatgacaaa	3420
gcgcgctcct	acctgcaata	tcagggtgac	tgtgtgcagc	tttgacgatg	gagttagatt	3480
gcctccctgg	tttccaacta	tgggtggaag	ggctgcgcgg	gagggtagtg	cagtagagta	3540
cgaggatgaa	ggaggtgatg	gagatgaggg	tggggaaggg	caggagtgat	gtacaaattgt	3600
aggagacgcc	ctcaattcgt	ttaaaagcgt	tgtattcccc	cgcaactaac	aataaactcc	3660
cagtagacat	catgcgtgct	gttggtgtat	ttctggccat	ctgctctgtc	accttttttg	3720
tcttcccaac	atggggcaat	tgggcatacc	catgttgtca	cgtccactcag	ctccgcgtc	3780
aaacactctc	cgcgctggaa	aacatttagcg	acatttaact	ggtgagcaat	cagacatgcg	3840
acggcttttag	ctcggtctcc	ttaaattcac	ctaagaatgg	ggtcagcagg	catgcaggga	3900
aagggaacgc	agcgaaaaat	cacgcocccct	tgggagggtg	cgcgatatgc	aaaggatagc	3960
actcccaact	tactactggg	tatcatatgc	tgaactgtata	tgactgagga	tagcatatgc	4020
taccocggata	cagattagga	tagcatatgc	taccagagata	tagattagga	tagcatatgc	4080
taccocagata	tagattagga	tagcctatgc	taccagagata	taatttagga	tagcatatgc	4140
taccocagata	tagattagga	tagcatatgc	taccagagata	tagattagga	tagcctatgc	4200
taccagagata	tagattagga	tagcatatgc	taccagagata	tagattagga	tagcatatgc	4260
tatccagata	tttgggtagt	atatgctacc	cagatataaa	ttaggatagc	ataactatgc	4320

ctaactctcta	ttaggatagc	atatgctacc	cggatacaga	ttaggatagc	atatactacc	4380
cagatataga	ttaggatagc	atatgctacc	cagatataga	ttaggatagc	ctatgctacc	4440
cagatataaa	ttaggatagc	atatactacc	cagatataga	ttaggatagc	atatactacc	4500
cagatatatta	ttaggatagc	ctatgctacc	cagatataga	ttaggatagc	atattgctacc	4560
cagatatttg	ggtagtatat	gctaaccatg	gcaacattag	cccaccgtgc	tctcagcgac	4620
ctcgtgaata	tgaggaccaa	caaccctgtg	ctggcgctgc	agcgcccaat	gtgtgtaatt	4680
tgtctccag	atcgacgcaa	tcgcgccctc	atcttggccc	gcccaccctac	tbtatgcaggt	4740
attccccggg	gtgcacattag	tggttttgtg	ggcaagtgg	ttgacogcag	tggttagcggg	4800
gggtacaact	agccaagtta	ttacaccctt	attttaccagt	ccaaaaccgc	agggcgcgct	4860
gtgggggctg	acogcgtgcc	ccactccaca	attttcaaaa	aaagagtggc	caactgtctt	4920
tgtttatggg	ccccattggc	gtggagcccc	gttttaatttt	cggggggtgt	agagacaacc	4980
agtgagtgct	gctgtctgtc	gcgtccactc	tctttccctc	tgttacaaat	agagtgtaac	5040
aacatgggtc	acctgtcttg	gtccctgcct	gggacacatc	ttaataaccc	cagtatcata	5100
ttgcactagg	attatgtgtt	gcccataggc	ataaattcgt	gtgagatgga	catccagctc	5160
ttacggcttg	tcgccacccc	atggatttct	attgtttaaag	atattcagaa	tgtttcattc	5220
ctacactagt	atttattgcc	caaggggttt	gtgagggtta	tattggtgtc	atagcacaat	5280
gcaccactgt	aacccccctg	ccaaattttta	ttctgggggc	gtcacctgaa	accttgtttt	5340
cgagacccct	acatcacact	tactgttccac	aaactcagcag	tattctctat	agcctaaacga	5400
aggagaatga	agaagcaggc	gaagaltccag	gagagtccac	tgcccgctcc	tgctctctca	5460
gccactgcc	ttgtgactaa	aatgggtccac	taccctcgtg	gaatcgtgaa	ccatcgtaaa	5520
taaaaccgtg	acagctctatg	gggtgggaga	tatcgctgtt	ccttaggacc	ctttttactaa	5580
ccctaattcg	atagcatatg	cttcccgctg	ggtaacatat	gctattgaa	taggggttagt	5640
ctggatagta	tatactacta	cccggaagac	atatgctacc	cgtttagggt	taacaagggg	5700
gcctctataa	cactatttgt	aatgccctct	tgagggtccg	cttatcggtg	gctcacacagg	5760
ccctcttgat	tgcagttgg	gtagcctccc	gtagctcttc	tgggccctctg	tgagggtacat	5820
gtcccccgac	attggtgtaa	gagcttcacg	caagagttac	acataaaagg	aatgttgtgt	5880
tgacgtccac	agactcgaac	gtctgtccca	ggatgaaagc	cactcagttg	tggaacaaatg	5940
gcacatccat	tataaggat	gtcaactaca	gtcagagaac	ccctttgtgt	ttggtcccc	6000
ccgctgtcac	atgtggaaaca	gggcccagtt	gccaaagtgt	accaaccacac	tgaagggtatt	6060
acatgcactg	ccccgaatac	aaaacaaaag	cgctcctcgt	accagcggaag	aagggggcaga	6120
gatgcgctag	tcaggttttag	ttcgtccggc	ggcgggcggc	cgcaaggcgc	gccggatcca	6180
caggacgggt	gtggctcgca	tgatcgcgta	gtcgatagtg	gctccaagta	gcgaagcgag	6240
caggactggg	cggcgcccaa	agcggtcgga	cagtgctccg	agaacgggtg	cgcatagaaa	6300
ttgcatcaac	gcataatagc	ctagatcctt	gctagagtcg	agatctgtcg	agccatgtga	6360
gcaaaaggcc	agcaaaaaggc	caggaaaccgt	aaaaaaggccg	cgttctgtggc	gtttttccat	6420
agggctccgc	cccttgacga	gcatacaaaa	aatcgacgct	caagtcagag	gtggcgaaac	6480
ccgacagagc	tataaagata	ccaggcgctt	cccccgtgaa	gctccctcgt	gcgctctcc	6540
gttccgaccc	tgccgcttac	cggataacctg	tcgcccttct	tcctctcggg	aagcggtggcg	6600
ctttctcata	gctcaccgtg	taggtatctc	agttcgggtg	aggtcgcttg	ctccaagctg	6660
ggctgtgtgc	acgcaaccctc	cgttcagccc	gaccgctcgg	ccttatccgg	taactatcgt	6720
cttgagtcca	accocgtaag	acacgaacta	tcgccaactgg	cagcagccac	tggttaacagg	6780
attagcagag	cgaggtatgt	agcggtgtct	acagagttct	tgaagtgtgt	gctctaactac	6840
ggctacacta	gaaggacagt	atttggatc	tgccctctgc	tgaagccagt	taccttcgga	6900
aaaagagtg	tgagctcttg	atccggcaaa	caaaaccacg	ctggtagcgg	tggttttttt	6960
gtttcgaaag	agcagattac	gcgcagaaaa	aaagagatct	aagaagatcc	tttgatcttt	7020
tctacggggt	ctcagcgtca	gtggaaacgaa	aactcacggt	aaagggtatt	actcgtacaga	7080
ttatcaaaaa	ggatctctcac	ctagatcctt	ttatcgggtg	gaaataaccg	acagatcgct	7140
aaaggagaaa	taccgcatca	ggaaaattgta	agcgttaata	attcagagaa	actcgtacaag	7200
aaggcgatag	aaggcgatgc	gctgcgaatc	gggaagcgcg	ataccgtaaa	gcacagggaa	7260
gcggtcagcc	catctcgcgc	caagctcttc	agcaatatca	cgggtagcca	acgctatgtc	7320
ctgatagcgg	tcgcgccacac	ccagcgcggc	acagtcgatg	aatccaagaa	agccggccatt	7380
ttccacactg	atatctcgca	agcaggcatc	gccactgggtc	acgacgagat	cgcctcgctc	7440
gggcacgtct	cccttgagcc	tgccgaacag	ttccgctggc	gcgagccctc	gatgctcttc	7500
gtccagatga	tcttgatcga	caagacccgc	ttccactcga	gtacgtgctc	gtcgtatgcg	7560
atggttcgct	tgtgtggtcga	atgggcaggt	agccggatca	agcgtatgca	gcgcgcctcg	7620
tgcatcagcc	atgatgtgata	ctttctcggc	aggaagcaag	tgagatgaca	ggagatcgtg	7680
ccccggcact	tcgccaataa	gcagccagtc	ccttcccgct	tcaagtacaa	cgtcgagcac	7740

agctgcgcgca	ggaacgcgccg	tctgtggccag	ccaacatagc	cgctgtgctt	cgtcttgcag	7800
ttcattcaagg	gcaccgcggca	ggtcggtctt	gacaaaaaga	accggggcgcc	cctgcgctga	7860
cagcggggaac	cagcggggcat	cagagcagcc	gattgtctgt	tgtgcccagt	catagccgaa	7920
tagcctctccc	acccaagcggg	ccggagaacc	tgcgtgcaat	ccatcttggt	caatcatgog	7980
aaaocgatcct	catcctgtct	cttgatcaga	gcttgatccc	ctgcgccatc	agatccttgg	8040
cggcgagaaa	gccatccagt	ttactttgca	gggcttgta	accctaccag	ataaaaatgc	8100
tcatcattgg	aaaacattca	attcgtcgac	ctcgaaatc	taccgggtag	gggaggcgct	8160
tttcccgaag	cagtctggag	catgcgcttt	agcagccccc	ctgggcactt	ggcgctacac	8220
aagtggcctc	tggcctcgca	caacattccac	atccaccgtt	aggcgccaac	cggtcctcgt	8280
ctttgctggc	cccttcggcg	caacctctac	tcttccctca	gtcaggaagt	tccccccgcg	8340
cccgcanctc	gcgtcgtgca	ggacgtgaca	aatggaaata	gcacgtctca	ctagtctcgt	8400
gcagatggac	aagcaaccgct	gagcaatgga	gcgggtaggc	ctttggggca	cgcggccaata	8460
gcagctttgc	tcttctgctt	tctgggctca	gaggctgma	aggggtgggt	ccggggcgcg	8520
gctcaggggc	gggctcaggg	gcggggcggg	cgcccgaaag	tcttcggag	gcccgccatt	8580
ctcgacgctt	caaaaagcga	cgtctgcgcg	gctgttctcc	tcttctctat	ctccggggct	8640
ttcgacctgc	atccatctag	atctcgagca	gctgaagctt	accatgaccg	agtaacaagcc	8700
cacggtgcgc	ctcgccaccc	gcgacgacgt	cccccggggc	gtacgcaccc	tgcgcccgcc	8760
gttcgcgcag	taccocgccca	cgcgccacac	cgtcgaccgc	gaccgcacca	ctagacgggt	8820
caccgagctg	caagaacctct	tcttcacgcg	cgtcgggctc	gacatcgcca	aggtgtgggt	8880
cgcggagcac	ggcgccgcgg	tggcggtctg	gaccacgcgc	gagagcgtcg	aagcgggggc	8940
ggtgttcgcc	gagatcgccc	cgcgcattggc	cgagttgagc	ggttcccgcc	tggcgccgca	9000
gcacacagatg	gaaggccctcc	tggcgccgca	ccggggccaa	ggagcccgcg	tggttctctg	9060
gccacacgct	gggcgcctct	gcgcgaccac	caggggcaag	cttggcgaa	gcctcgtcgtg	9120
ctccccggag	tggagggcgcc	cagagcgccc	ggggtgcgcc	cccttctgga	gactctccgc	9180
ccccgcgaac	tccccttcta	cgaagcgctc	ggcttcacgc	tcacgcgcgc	cgtcgaggtg	9240
cccggaaggac	cgcgcacctg	gtgcgatgacc	cgcaagcccg	gtgcctgacg	ccccccccac	9300
gaaccgcgagc	gcgcgacgca	aaggagcgca	cgaccccatg	ctcogatgat	actggggcag	9360
taagtatcaa	ggttagcggc	cgtcaacctg	gttgctgact	aattgagatg	catgctttgc	9420
atactctcgc	ctcgtgggga	gcctggggac	tttccacacc	ctaactgaca	cacattccac	9480
agctggtttct	ttccgcctca	gaaggtacac	aggcgaaatt	gtaagcgtta	atatttttgt	9540
aaaaatcgcg	ttaaattttt	gttaaatcag	ctcaattttt	aaccaatagg	ccgaaatcgg	9600
caaaatccct	tataaatcaa	agaatatagc	cgagataggg	ttgagtgttg	ttccagtttg	9660
gaacaagagt	ccactattaa	agaacgtgga	ctccaacgct	aaaggcgcaa	aaacgcgtca	9720
tcagggcgat	ggccccc					9777

<210> 23
 <211> 9737
 <212> DNA
 <213> Homo sapiens

<220>
 <221> modified_base
 <222> (8347)
 <223> a, c, t, g, other or unknown

<220>
 <221> modified_base
 <222> (8499)
 <223> a, c, t, g, other or unknown

<400> 23						
gatcttcaat	attggccatt	agccatatta	ttcattgggt	atatagcata	aatcaatatt	60
ggctattggc	cattgcatac	gtgttatcta	tatcataata	tgtacattta	tattggctca	120
tgtccaatat	gaccgcattc	ttggcattga	ttattgacta	gttattaata	gtaactcaat	180
acggggctcat	tagttctatg	cccatatatg	gagttccgcg	ttacataact	tacggtaaat	240
ggcccgccctg	gctgaccgcc	caacgacccc	cgcccatatg	cgtaataat	gacgtatgtt	300

cccatagtaa	cgccaatagg	gactttccat	tgacgtcaat	gggtggagta	tttacggtaa	360
actgcccaat	tggcagtaga	tcaagtgtat	catatgccaa	gtccgcccc	tattgacgtc	420
aatgacgggt	aatggccgcg	ctggcattat	gcccagtaga	tgaccttaacg	ggactttccct	480
acttgccagt	acatctacgt	attagtcac	gctattacca	tggtgatgag	gttttggcag	540
tacacagcgt	gggtggagta	gcgggttgac	ttccagggtc	ttccaaagtct	ccaccocatt	600
gacgtcaatg	ggagtttgtt	ttggcaccaa	aatcaacggg	actttccaaa	atgtcgtaac	660
aactgcgatc	gcccgccccc	ttgaacgcaa	tgggcggtag	gcgtgtacgg	tgggagggtc	720
atataagcag	agctcgtgta	gtgaacgcgc	agatcactga	atctgtacga	gcctactgatt	780
aacggccata	gagggcctct	gcagaactgt	cttagtgaca	actatcgatt	tcaccaacatt	840
tacgagcgcg	atgtttaattg	tcaacagctc	atgcagtacg	ttccggggagc	agcacaagccc	900
gaccatggct	cgagtaatac	gactcactat	agggcgacag	gtgagtactc	gctaccttaa	960
ggcctatctg	gccgttataa	cagatgtgta	taagagacag	ctctcttaag	gtagcctgtc	1020
ctttatacac	atctagatcc	ttgttagagt	cgaccaattc	tcagtgttga	cagcttatca	1080
tcgcagatcc	tgagctgtga	tgggtcactc	tcagtaacaat	ctgctctgct	gccgcatagt	1140
taagccagta	ctctgcctct	gcttgtgtgt	tggaggtcgc	tgagtgtgct	gcgagcaaaa	1200
tttaagctac	aacaaggcaa	ggcttgacgc	acaattgcac	gaagaactctg	cttaggggta	1260
ggcggttttg	gctgtctcgc	gatgtacggg	ccagatatac	gcgttatctga	ggggactagg	1320
gtgtgtttag	gcgcccgacg	gggcttcggt	tgtacgcggt	taggagctccc	ctcaggatatt	1380
agtagttctg	ctttttgcata	gggaggggga	aatgtagtct	tatgcaattac	ctcttagtgc	1440
gttcaacatg	gtaacagtaga	gttagcaaca	tgccttacaa	ggagagaaaac	agccactgtgc	1500
atgccgattg	gtggaaagta	gggtgtacga	tcgtgcctta	ttagaaagggc	aacagacaggt	1560
ctcgcactag	atttgagcaa	ccaactgaatt	ccgcattgca	gagataattg	tatttaagttg	1620
cctagctcga	tacaataaac	gccatttgac	cattcaccaac	attggtgtgc	acctccaagc	1680
tgggtaccag	ctcgtagctc	cgagacgcgt	gatttctctc	gaagcttgct	atggttggtt	1740
cgcataaact	gtctgcctgc	gtgtccgaac	acatgggcat	cggaacagac	ggggacctgc	1800
ctcggccacc	gctccaggaat	gaattccagat	atttccagag	aatgacacca	acctcttcag	1860
tagaaggtaa	acagaatctg	gtgattatgg	gttaagaagac	ctgggttctcc	attctcgaga	1920
agaatgcacc	tttaaaaggtg	agaatttaatt	tagttctcag	cgagaaactc	aaggaaacctc	1980
cacaaggagc	tcattttctt	tcgaagaagtc	tagatgatgc	cttaaaactt	actgaacaac	2040
agaataatgc	aaataaaagta	gacatggtct	ggatagttgg	tggcagttct	gtttataaag	2100
aaagccatgaa	tcacccaggc	catcttaaac	tatttctgac	aaggatcatg	caagactttg	2160
aaagtgcacc	gttttttcca	gaaattgatt	tggagaaata	taaaactctg	ccagaataacc	2220
caggtgtctc	ctctgatgtc	caggaggaga	aaggcatata	gtacaaattt	gaagtatatg	2280
agaagaatgt	taattaaagg	caccaataac	tgccttaaaa	aaattacgac	ccgcctgccc	2340
actcatcgca	gtactgttgt	aattcattaa	gcattctgccc	gacatggaag	ccatcacaga	2400
cggcatgatg	aacctgaatc	gccagcgcca	tcagcacctt	gtcgctctgc	gtataataatt	2460
tgcccatggt	gaaaacgggg	gcgaagaagt	tgtccatatt	ggccacggtt	aaatcaaaaac	2520
tggtgaaact	caccocaggga	ttggctgaga	cgaaaaacat	attctcaata	aacctgttag	2580
ggaaaatagc	caggttttca	ccgtaacacg	ccacatcttg	cgaatataatg	tcacgaactc	2640
gcgggaaact	gtcgtgggtat	tcactccaga	cgcatgaaaa	cgttttcagtt	tgctcatgga	2700
aaacgggtga	acaaagggtga	acactatccc	atataccagc	ctcacgcgtc	ctatgtccca	2760
tacgggaatt	cggatgagca	ttcatcaggc	gggcaagaat	gtgaataaag	gcgggataaa	2820
acttctgctt	atttttcttt	acgggtcttta	aaaaaggccgt	aatatccagc	tgaacggctct	2880
gggtataggt	acattgagca	actgactgaa	atgcctcaaa	atgttcttta	cgatgccatt	2940
gggatatact	aaacgggtga	tatccagtga	ttttttctct	catttttagct	tccttagctc	3000
ctgaataact	cgataactca	aaaaatacgc	ccggtagtga	tcctatttca	tattaggtga	3060
actgtggaac	tcttaccgtg	cgatcaacgt	ctcattttcg	ccaaatttaat	taaggccgcg	3120
cgcctcctcg	tcgtaggagtc	acgtagaaaag	gactaccgac	gaaggagact	gggtcgccgg	3180
tgtgttcgtt	tatggaggtc	gttaagacctc	cttttaacaac	tgaggcgagc	gaactgcctct	3240
tgctatccca	caatgtcgtc	ttacacattt	gagtctctct	ccctttggaag	tggccctctg	3300
accggcccca	caacctggcc	cgctaaggga	gtccattgtc	tgttatttcca	tggtcttttt	3360
acaaactcat	atattttgtg	aggttttgaa	ggatgcgatt	aaggcactctg	tattgacaaa	3420
gcccgctcct	acctgcaata	tcaggggtgac	tgtgtgcagc	tttgacgatg	gagtagattt	3480
gcctccctg	tttccacata	tggtggaaagg	ggctgcggcg	gaggtgtgatg	acggagatga	3540
cgagatgtaa	ggaggtgatg	gagatgaggg	tggaggaagg	caggagttagt	gttaacttgtt	3600
aggagagccc	ctcaactcgt	ttaaaagccg	tgtattcccc	cgcactaaag	ataaactcccc	3660
cagtagacat	catgcgtgct	gttggtgtat	tctctggccat	ctgtcttgct	accattttcg	3720

tcctcccaac	atggggccaat	tgggcatacc	catgttgtca	cgctactcag	ctcccgcgctc	3780
aacacctctc	cgcgctggaa	aacattagcg	acattttacct	ggtagagcaat	cagacatgcgc	3840
acggcttttag	cotggcctcc	ttaaatccac	ctaagaatgg	gagcaaccag	catgcaggaa	3900
aaggcaacag	agcgaaaatt	cacgccccct	tgggaggttg	cgccatattgc	aaaggatagc	3960
actcccactc	tactactggg	tatcatatgc	tgactgtata	tgcatgagga	tagcatatgc	4020
taccgggata	cagatttaga	tagcatatac	taccagata	tagatttaga	tagcatatgc	4080
taccagata	tagatttaga	tagcctatgc	taccagata	taaatttaga	tagcatatgc	4140
taccagata	tagatttaga	tagcatatgc	taccagata	tagatttaga	tagcatatgc	4200
taccagata	tagatttaga	tagcatatgc	taccagata	tagatttaga	tagcatatgc	4260
tatccagata	tttgggtagt	atatgctacc	cagataataa	ttaggatagc	ataatactacc	4320
ctaactctta	ttaggatagc	atatgctacc	cggatacaga	ttaggatagc	ataatactacc	4380
cagatataga	ttaggatagc	atatgctacc	cagatataga	ttaggatagc	atatgctacc	4440
cagataataa	ttaggatagc	ataatactacc	cagatataga	ttaggatagc	atatgctacc	4500
cagatataga	ttaggatagc	ctatgctacc	cagatataga	ttaggatagc	atatgctacc	4560
cagataattg	tgtagtatat	gctaccctag	gcaacattag	cccaccgtgc	tctcagcgac	4620
ctcgtgaata	tgaggaccaa	caaccctgtg	cttggcgctc	aggcgcaagt	gtgtgtaatt	4680
tgtctccag	atcgagcaa	tcggcccccct	atcttggccc	gccaccctac	ttatgcagggt	4740
attcccggg	gtgccattag	tgggttttgt	ggcaagtggg	ttgacgcgac	tggttagcgg	4800
ggttacaalc	agccaaagtta	ttacaccctt	attttacagt	ccaaaaccgc	agggcgcgct	4860
gtggggggctg	acggcgtgcc	ccactccaca	atttcaaaaa	aaagagtggc	catctgtctt	4920
tgttttagtg	ccccattggc	gtggagcccc	gttttaatttt	cggggggtgt	agagacaacc	4980
agtgaggtcc	gctgctgtcg	gcgtccactc	tctttccctc	tgttacaagt	agagtgtaac	5040
aactatggct	acctgtcttg	gtccctgcct	ggagacacat	ttataaaccc	cagtatcata	5100
ctcagctagg	attatgtgtt	gcccatagcc	ataaattcgt	gtgagatgga	catccagctc	5160
ttacggctgt	tcgccaccoc	atggatttct	attgttaaa	atattcagaa	tgcttcgact	5220
ctacactagt	atttatgtcc	caagggtgtt	gtgaggggtta	tatttggtgtc	atagcacata	5280
ctccactcag	aaaccccctg	ccaaatttta	cttctgggggc	gcacactgaa	acctgtgttt	5340
cgagcacctc	acatacacct	tactgttcc	aactcagcag	ttattctatt	cgctaaacgc	5400
aggagataga	agaagcaggc	gaagattcag	gagagttcac	tgcccgctcc	tgtactctca	5460
gccactgcc	ttgtgactaa	aatgtgttcc	tacccctcgt	gaatcctgac	cccatgtaaa	5520
taaaaccgtg	acagctcatg	gggtgggaga	tatcgctgtt	ccttaggacc	ctttactaaa	5580
ccctaattcg	atagcatatg	cttcccgttg	ggtaacatat	gctattgaat	taggggttagt	5640
ctggtagtga	tatactacta	ccgggaagc	atatgctacc	cgttttaggt	taacaagggt	5700
gccttataaa	cactattgct	aatgccctct	tgagggtccg	cttatcggtg	gctacacagg	5760
ccccctgat	tgacgttggt	gtagcctccc	gtagtctccc	tggggccctg	ggaggtacat	5820
gtcccccgag	attggtgtaa	gagcttcagc	caagagttac	acataaaggc	aatgttgtgt	5880
gtcagctccac	agactgcaaa	gtctgctcca	ggatgaaagc	cactcagttg	tggcgaatgt	5940
gcacatccat	ttataaggat	gtcaactaca	gtcagagaa	ccctttgtgt	ttggtccccc	6000
cccggtgtcc	atgtggaaca	gggcccagtt	ggcaagtgtg	accacccaac	tgaagggatt	6060
acatgtcact	ccccgaattac	aaaacaaaag	cgtctcctgt	acaggcgcaa	aaaggggcaga	6120
gtagccgttag	tcagggttag	ttcgtccggc	ggcgggcggc	cgcaaggcg	gccggatcca	6180
caggacggag	gtggctgccca	tgatcgcgta	gtcgtatagt	gctccaagt	gcgaagcgag	6240
caggactggg	cgcgggccaa	agcggtcgga	cagtgtccg	agaacgggtg	cgcataagaa	6300
ttgcatacaa	gcataatagc	ctagatcctt	gctagagtgc	agatctgtcg	agccatagta	6360
gcgaaaaggcc	agcaaaaaggc	caggaaacctg	aaaaaggcgc	cgttctgtgc	gtttttccat	6420
aggctggccc	cccctgacga	gcatacacaa	aatcgacgct	caagtccagag	gtggcgaaaac	6480
cgacagggac	tataaagata	ccaggcggtt	cccctggaa	gctccctcgt	gcgctctcct	6540
gttcgcaccc	tgccgcttac	cggataacctg	ttccgcttct	taagcgtcgg	taagcgtggcg	6600
ctttctcata	gctcacgctg	taggtatctc	agttcgggtg	aggtcgttgc	ctccaagctg	6660
ggctgtgtgc	acgaaccccc	cgttcagccc	gaccgctgcg	ccttatccgg	taactatcgt	6720
cttgagtcca	accoggttaag	acacgactta	gtcccaactgg	cagcagccac	tggtaacagg	6780
attagcagag	cgaggtatgt	aggcggtgct	acagagttct	tgaagtgggtg	gcctaactac	6840
ggctacacta	gaaggacagt	atttgggtatc	tgcgctctgc	tgaagccagt	taacctcgga	6900
aaaagagtgt	gtagctcttg	atccgggcaaa	caaaccacgc	ctggtagcgc	tggttttttt	6960
tttgcaagc	agcagattac	gcgcagaaaa	aaaggatctc	aagaagatcc	tttgatcttt	7020
ctcaggggtg	ctcagctcca	gtggaacgaa	aactcagctt	aagggtatgt	ggtcatgaga	7080
ttatcaaaaa	ggatccttcc	ctagatcctt	ctatcggtg	gaaataccgc	acagatcggt	7140

aaggagaaaa	taccgcatca	ggaattgtta	agcgtaata	attcagaaga	actcgtcaag	7200
aaggcgatag	aaggcgatgc	gctgcgaatc	gggagcgcg	ataccgtaaa	gcacgaggaa	7260
gcggtcagcc	ctctgcgcgc	caagctcttc	agcaatatca	cgggtagcca	acgctatgtc	7320
ctgatcagcg	tcgcgccacac	ccagccggcc	acagtcgatg	aatccagaaa	agcgccatt	7380
ttccacctg	atattcgga	agcaggcatc	gccatgggtc	acgaacagat	ctcgcgcgc	7440
gggcatgtct	gccttgagcc	tggcgaaacg	ttcggctggc	gcgagccctc	gatgcctctc	7500
gtccagatca	tcctgatcga	caagaccggc	ttccatccga	gtacgtgtct	gctcgtatgc	7560
atgtttcgct	tgtgtgtcga	atgggcaggt	agccgatca	acgctatgca	gcgcgcgat	7620
tgcatacgc	atgatggata	ctttctcgcc	aggagcaagg	tgaatgaca	ggagatctgt	7680
ccccgcact	tcgcccata	gcagccagtc	ccttcccgct	tacgtgacaa	cgtcgcgcac	7740
agctgcgcaa	ggaacgccgc	tcgtggccag	ccacgatagc	cgcgctgcct	cgtcttgacg	7800
ttcattcagg	gcaccggaca	ggctcggtct	gacaaaaaga	accggggccc	cctgcgctga	7860
cagccggaac	acggcgccat	cagagcagcc	gattgtctgt	tgtgccccagt	catagccgaa	7920
tagcctctcc	acccaagcgg	ccggagaacc	tgcgtgcaat	ccatcttgtt	caatcatgcg	7980
aaacgatcct	catcctgtct	cttgatcaga	gcttgatccc	ctcgcgcctc	agatccttgg	8040
cggcgagaaa	gccatccagt	ttactttgca	gggcttgtca	acctaccag	ataaaagtgc	8100
tcatcatggg	aaaaacattca	attcgtcgac	ctcgaaattc	taccgggtag	gggagggcgt	8160
tttcccaagg	cagctctggag	catgcgcttt	agcagccccc	ctgggcactt	ggcctacac	8220
aagtggccctc	tggcctcgca	cacattccac	atccaccggg	aggcgcaaac	cggtctctgt	8280
ctttgtgggc	cccttcgcgc	cacettctac	tcctccccta	gtcaggaagt	tcccccccg	8340
cccgcanctc	gcgtcgtgca	ggacgtgaca	aatggaata	gcacgttcca	ctagtctcgt	8400
gcagatggac	aagcacccgt	gagcaatgga	gcgggttagc	ctttggggca	gcggccaata	8460
gcagctttgc	tccttcgctt	tctgggctca	gaggctggna	aggggtgggt	ccggggcgcc	8520
ctcagggggc	gggctcaggg	gcggggcggg	cgccccgaag	tcctccggag	gcgccggcatt	8580
gtgcacgctt	caaaagcgca	cgtctgcgcg	gctgtttctc	tccttcctcat	ctccgggcgt	8640
ttcgactcgc	atccatctag	atctcgagca	gctgaagctt	accatgaccg	agtaacaagc	8700
cgcggtcgcc	ctcgccaccc	gcgacgacgt	cccccgggcc	gtacgcgcgc	tcgcgcgcgc	8760
gttcgcgcac	taccccgccca	cgcgccacac	cgtcgacccg	gaccgcacac	tcgacggggg	8820
caccgagctg	caagaactct	tcctcacgcg	cgtcgggctc	gacatcgcca	agggtgtggg	8880
cgcggacgac	ggcgccgcgg	tggcggtctg	gaccacgccg	gagagcgtcg	aagcgggggg	8940
gggtgttcgc	gagatcgccc	cgcgcacggc	cgagttgagc	ggttccccgc	tggccgcgca	9000
gcaacagatg	gaaggcctcc	tggcgccgca	ccggggccaa	ggagcccgcg	tgggttcctg	9060
gccccacgct	gggctctctc	gcccgaccac	cagggcaagg	gtctggcaag	cgcgctcggt	9120
ccccccgag	tggagcggcg	cagcgcgcgc	ggggtgcgcc	ccttctctgga	gacctcccg	9180
cccccaacc	tcctctctca	cagcggctc	ggcttcaccg	tcaccgcgca	cgtcgaggtg	9240
cccggaaggc	cgcgcacctg	gtgcatgacc	cgcgaagccc	gtgcctgacg	ccgccccacc	9300
gaccgcgacg	gcccgaccga	aaggagcgca	cgacccccatg	catcgatggc	actggcgagg	9360
taagtatcaa	ggttagcggc	cgtataacctg	gttgctgact	aattgagatg	catgctttgc	9420
atactctcgc	ctgctggggg	gcctggggac	tttccacacc	ctaacctgaca	caatctccac	9480
agctggtttc	ttccgcctca	gaaggtacac	agcgcaaat	gtaacggtta	atatatttgt	9540
aaaattcgog	ttaaattttt	gttaaatcag	ctcatTTTTT	aaccaatagg	ccgaatacgg	9600
caaaatccct	tataaatcaa	aagatatagc	cgagataggg	ttgagtggtt	ctccagttgt	9660
gacaaagagt	ccactattaa	agaaactgga	ctccaaactc	aaagggcgaa	aaaccgctca	9720
tcagggggat	ggccccc					9737

<210> 24

<211> 9871

<212> DNA

<213> Homo sapiens

<220>

<221> modified_base

<222> (8481)

<223> a, c, t, g, other or unknown

<220>

<221> modified_base

<222> (8633)

<223> a, c, t, g, other or unknown

<400> 24

gatcttcaat	attggccatt	agccatatta	ttcattgggt	atatagcata	aatcaatatt	60
ggctattggc	cattgcatac	gttgatctca	tatcataata	tgatcataata	tattgggtca	120
tgccaatat	gacgcgcag	ttggcatgta	ttattgacta	gttattaata	gtaatacaatt	180
acggggtcat	tagttctatg	cccatatatg	gagttccggc	ttacataaact	taaggtaaat	240
ggccgcctcg	gctgacgcgc	caacgacccc	cgcccaatga	cgccaataat	gacgtattgt	300
cccatagtaa	cgccaatagg	gactttccat	tgacgtcaat	gggtggagta	tttacggtaa	360
actgcccact	tggaagtaca	tcaagtgtat	catatgccaa	gtccgcccc	tattgacgtc	420
aatgacggta	aatggcccgc	ctggcattat	gcccgatca	tgaccttacg	ggactttcct	480
actttggcag	acatctacgt	attagtcac	gctattacca	tggtgatgog	gttttggcag	540
tacaccaatg	ggcgtggata	gcggtttgac	tcacggggat	ttccaagtct	ccaccccatt	600
gacgtcaatg	ggagtttgtt	ttggcaccaa	aatcaacggg	actttccaaa	atgtcgtaac	660
aaactgcgat	gcccgcctcg	ttgacgcaaa	tgggcggtag	gcgtgtacgg	tgggagggtc	720
ataataagcag	agctcgttta	gtgaacgcgc	agatcaactga	attctgacga	cctactgatt	780
aaagatctaa	gctagcgccg	ccaccatggg	ccctaaaaag	aagcgtaaag	tgccccccc	840
gaccgatgtc	agcctggggg	acgagctcca	cttagacggc	gaggacgtgg	cgatggcgcc	900
tgccgacgcg	ctagacgatt	tcgatctgga	catgttgggg	gatattgggg	acctcgagtt	960
gggatttacc	ccccacgat	ccgcgcccat	cgccgctctg	gatattggcg	acctcgagtt	1020
tgagccagat	ttccacgatg	cccttggaa	tgacgagtac	gggtgggaat	tcaggtaggt	1080
actcgtcacc	ttaaaggcta	ctggccggtt	taaacagatg	tgataaagag	acacgtctct	1140
taaggtagcc	tgctctctat	acacatctag	atccttgcta	gagtcgacca	atctctcatg	1200
ttgacagctt	atcatcgacg	atcctgagct	tgatttggtg	actctcagta	caatctgctc	1260
tgctgcgcga	tagttaagcc	agtatctgct	ccctgcttgt	gtgttgaggg	atacgtgagta	1320
gtgcgcgagc	aaaatttaag	ctcaacaag	gcaaggcttg	accgacaatt	gcatgaagaa	1380
ctcgtctagg	gttaggcgtt	ttgcgctgct	tcgcgatgta	cgggccagat	atacgcgtat	1440
ctgagggggac	taggggtgtg	ttagcgcccc	agcggggctt	cggttgtaag	cggttaggag	1500
tcocctcagg	atatagtatg	ttcgcttttg	catagggagg	gggaaatgta	gtcttatgca	1560
atacacttgt	agtcctgcaa	catggttaacg	atgagttagc	aacatgcctt	acaaggagag	1620
aaaaagcacc	gtgcgacgcg	attggtggaa	acgatcgtgc	cttattagga	tcgatagata	1680
aggcaacaga	caggctcgac	atggattgga	cgaaccactg	aattccgcat	tgacagagata	1740
atttgtattta	agtgctcagc	tcgatacaat	aaacgccatt	tgaccattca	ccacatttgt	1800
gtgcacacct	aagctgggta	ccagctgcta	gcctcgagac	gcgtgatttc	cttcggaagt	1860
tgtcatggtt	ggctcgctaa	actgcactgt	cgctgtgtcc	cagaaacattg	gcactggcaa	1920
gaacggggac	ctgcctcggc	caccgctcag	gaatgaattc	agatatattcc	agagaaatgac	1980
caacaacctc	ctaggtagaag	gtaaacagaa	ctcgggtgatt	atgggttagc	agacctgggt	2040
ctccattctc	gagagaatcc	gacctttaaa	gggtagaatt	aattttagttc	tcagcagaga	2100
actcaaggaa	ctccacaag	gagctcattt	ctcttcagaa	agtcctgagt	atgccttaaa	2160
acttactgaa	caaccagaa	tagcaaataa	agtagacatg	gtctggatag	ttgggtggcag	2220
ttctgtttat	aaggaaagca	tgaatcaccc	tcggactctt	aaactatttg	tgacaaggat	2280
catgcaagac	tttgaagtg	acacgttttt	tcgcaaat	gatttggaga	ataataaact	2340
ctctccagaa	taccagggtg	ttctctctga	tgccaggagg	gagaaaggca	tttaagtaca	2400
atttgaagta	tatgagaaga	atgttaatta	agggocacaa	tattgccttt	tgccgagatc	2460
gcgcccgccc	tgccactcat	cgcagctactg	ttgtaattca	tttagcatct	tgccgagatc	2520
gaagccatca	cagacggcat	gatgaacctg	aatcgccagc	ggcatcagca	ccttgctgcc	2580
ttgcgataaa	tatttgccca	tggtgaaaac	ggggggcgaag	aagtgtcca	tattggccac	2640
gtttaaatca	aaactgggtga	aactcaccca	gggatttgct	gagacagaaa	acatatctct	2700
aatataccct	ttagggaat	aggccaggtt	ttcacgtaaa	cagcgacata	cttcggaata	2760
tatgttgtaga	aactgcggga	aatcgtcgtg	gtatttaact	ccagcgcatg	caaacgtttc	2820
agtttgtctca	tggaataacg	gttaacaagg	gtgaacacta	tcctcatatca	ccagctcacc	2880
gcttttcaat	gcataccgga	attccggatg	agcatctcat	aggcggcgaa	gaattgtgaat	2940
aaaggccgga	taaaacttgt	gcttattttt	ctttacggtc	tttaaaaaag	cgaaataatc	3000
cagctgaacg	gtcgtgttat	aggtacattg	agcaactgac	ttaaatgctc	ccattatgtt	3060
tttacgatgc	cattgggata	tatcaacggt	ggtatatcca	gtgatttttt	ttccattttt	3120

agcttcctta	gctcctgaaa	atctcgataa	ctcaaaaaat	acgcccggtta	gtgatctttat	3180
ttcattatgg	tgaaggttgg	aaacctcttac	gtgcgcatca	acgtctcatt	tcgcgcaaat	3240
taattaaagg	ggccgcgctct	cctggcctagg	agtcaagtag	aaaggactac	cgacgaaggga	3300
actctgggtcg	ccggttgtgtt	cgtatatgga	ggtagtaaga	cctcccttta	caacctaaagg	3360
cgaggaaactg	cccttctgtat	tcocaaatgt	cgtcttacac	cattgagctg	ttctcccttt	3420
ggaaatggccc	ctggaccocgg	ccocaaacct	ggcccgctaa	gggagtcocat	tgtctgtttat	3480
ttcatggtct	ttttacaaac	tcatatattt	ctgtgaggtt	tgaaggatgc	gatttaaggac	3540
cttgttatga	caaaagccgc	tcctacctgc	aatatcaggg	tgactgtgtg	cagctttgac	3600
gatggagttag	atttgcctcc	ctggtttcca	cctatggtag	aaagggctgc	cggcgagggt	3660
gatgacggag	atgacggaga	tgaaggaggt	agggtagagg	agggcgaggga	agggcgaggga	3720
tgatgtaaat	tgttagggaga	cgccctcaat	cgtattaaaa	gcgcgtgatt	cccccgcaat	3780
aaagaataaaa	tcocccagtag	acatcatgcg	tgctgttgtt	gtattctcgg	ccatctgtct	3840
tgtcaccaatt	ttcgtctctcc	caacatgggg	caattgggca	taccocatgtt	gtcacgtcac	3900
tcagctccgc	gctcaaacac	ttctcgcgtt	ggaaaaacatt	agcgacattt	acctggtagg	3960
caatcagaca	tgcgacggct	ttagcctggc	ctccttaaat	tcacctaaaga	atgggagcaa	4020
ccagcatgca	ggaaaaggac	aagcagcgaa	aattcaacgc	cccttgaggag	gtggcgccat	4080
atgcgaaggga	tgcacctccc	actctactac	tgggtatcat	atgctgactg	tatatgcatg	4140
aggatagcat	atgctaccgc	gatacagatt	aggatagcat	atgctaccga	gatctagatt	4200
aggatagcat	atgctaccga	gatataagatt	aggatagcat	atgctaccga	gatataaatt	4260
aggatagcat	atgctaccga	gatataagatt	aggatagcat	atgctaccga	gatataagatt	4320
aggatagcat	atgctaccga	gatataagatt	aggatagcat	atgctaccga	gatataagatt	4380
aggatagcat	atgctaccga	gatataagatt	aggatagcat	atgctaccga	gatataagatt	4440
tagcatatac	taccctaatc	tcctattagga	tagcatatgc	taccocggata	cagatttagga	4500
tagcatatac	taccctaatc	tagatttagga	tagcatatgc	taccocggata	tagatttagga	4560
tagcctatgc	taccocagata	taaatttagga	tagcatatac	taccocagata	tagatttagga	4620
tagcatatgc	taccocagata	tagatttagga	tagcctatgc	taccocagata	tagatttagga	4680
tagcatatgc	taccocagata	tagatttagga	atatgttacc	taccgcaaca	tttagccacc	4740
gtgctctcag	cgacctcgtg	aatatgagga	ccaacaaccc	tgtgcttgcc	gctcccgccg	4800
aagtgtgtgt	aatttgtctct	ccagatcgca	gcaatctcgc	ccctatctgt	gcocggccac	4860
ctacttatgc	aggtatttccc	cggggtgcga	ttagtgtgtt	tgtgggcaag	tgggttgacc	4920
cgagtgttta	gcgggggttac	aatcagccaa	gtttattacac	ccttatttta	cagtccaaaa	4980
ccgcaggcgc	gcgtgtgggg	gctgaocgct	gtttattacac	gcccccaact	caacaatttca	5040
tgcccgcttg	tgggccocat	tgggccocat	gtggcgtggag	ccocgtttaa	ttttccaggag	5100
tgtagagac	aaccagtgga	gtccgctgct	gtccgctgct	actctctttc	cccttgtttac	5160
aaatagagtg	taacaacatg	gttcacctgt	cttggctcct	gcttggtgga	catcttaata	5220
cccccagtag	catattgcaat	taggatttat	tgttgcccat	agccataaat	tcgtgtgaga	5280
tggaacatcca	gtcttttaacg	cttgcoccca	ccccatggat	ttctatttgt	aaagatatct	5340
agaatgtttc	attctacacac	tagtatattat	tgcccaaggg	gtttgtgagg	gttatatttg	5400
tgctatagca	caatgccacc	actgaacccc	ccgtccaaat	tttattctgg	ggcgctcacc	5460
tgaacacctg	ttttcgagca	cctcacatcac	accttactgt	tcacaactca	gcagttttac	5520
tattagctaa	acgaaggaga	atgaagaagc	aggcggaagt	tcaggagagt	tcactggccc	5580
ctccttgatc	ttcagccact	gccttctgta	ctaaaaatggt	tcactacctc	cgtggaatcc	5640
tgaccccatg	taaaataaac	cgtgacagct	catgggggtg	gagatatcgc	tgttcccttag	5700
gacctcttta	ctaaccctaa	ttcgatagca	tatgcttccc	gttggtgtaac	atatgctatt	5760
gaattagggt	tgtctggat	agtataactc	actaccgggg	aagcatatgc	tactccgttta	5820
gggttaacaa	ggggggcctta	taaacactat	tgctaactgcc	ctcttgaggg	tcgcgttatc	5880
ggttagctaca	caggcccccct	tgattgacgt	tggtgtagcc	tcocgtatgc	ttcctggggc	5940
ccgtggaggt	acatgtcccc	cagcaattggt	gtaagagctt	cagccaaagag	ttacacataa	6000
aggcaatggt	gtgttgcaatg	ccacagactg	caaaagtctgc	tcacaggtaga	aagccactca	6060
gtgttggtcaa	atgtgcacat	ccattataaa	ggatgtcaac	tacagctcaga	gaaccccttt	6120
gtgttggttc	ccccccctgt	tcacatgtgg	aaacagggccc	agtttgcaag	tgttaccaac	6180
caactgaagg	gatttcaatgc	actgcccga	atacgaataa	aaagcgtctcc	tcgtaccagc	6240
gaagaagggg	cagagatgcc	gtagtcaagt	ttagtctcgt	cggcgccggg	cggcgccgaag	6300
gcgcgcggga	tcacagggac	gggtgtggtc	gccatgatcg	cgtagtcsag	agtggctcca	6360
agtagcggaag	cgagcaggac	tgggcggcgg	ccaaagcggg	cggacagtgc	tcgcgaaagc	6420
ggtgcgcata	gaaattgcat	caacgcatac	agcgcctagat	ccttgctaga	ctcgagattc	6480
gtcgagccat	gtgagcaaaa	ggccagcaaa	aggccaggaa	ccgtaaaaag	gcgcgcttgc	6540

tggcggtttt	ccataggtct	cgccccctg	acgagcatca	caaaaatcga	cgctcaagtc	6600
agaggtggcg	aaaccgcaca	ggactatata	gataccaggc	gtttccccct	ggaaagctccc	6660
tcgtgcgcct	tccgtgtccg	accctgcgcg	ttaccggata	cctgtccgcg	tttctccctt	6720
cgggagcgcg	ggcgctttct	catagctcac	gctgtaggtg	tctcaggtcg	gtgtaggtcg	6780
ttcgctccaa	gtctgggtgt	gtgcacgaac	cccccgttca	gccccagccg	tcggccctat	6840
ccggtaacta	tcgtctttgag	tcacaaccgg	taagacacga	cttatcgcca	cggcgacgag	6900
ccactggtaa	caggattatgc	agagcggagg	atgtaggcgg	tgctacagag	tctctgaagt	6960
ggtggcctaa	ctacggtctac	actagaagga	cagttatttg	tatctgcgct	ctgctgaagc	7020
cagttacctt	cgggaaaaaga	gttggttagt	cttgatccgg	caaaaaaacc	accgcgtggt	7080
gcggtggttt	ttttgtttgc	aagcagcaga	ttacgcgcag	aaaaaaagga	tctcaagaag	7140
atcctttgat	cttttctacg	gggtctgacg	ctcagtgga	cgaaaactca	cgttaaagga	7200
ttttggtcat	gagattatca	aaaaggatct	tcacctagat	ccttttatcg	gtgtgaataa	7260
ccgcacagat	gcgttaaggag	aaaataccgc	atcaggaat	tgttaagcgtt	aataattcag	7320
aagaactcgt	caagaaggcg	atagaaggcg	atgcgctgcg	aatcgggagc	ggcgataccg	7380
taaagcacga	ggaagcggtc	agccccattc	ccgcacaagt	cttcagcaat	atcacgggta	7440
gocaaacgcta	tgtcctgata	cggtgcgcg	acaccagcc	ggccacagtc	gatgaatcca	7500
gaaaaagcgg	catttttccac	catgataatc	ggcaagcagg	catcgccatg	ggtcacgacg	7560
agatcctcgc	cgctcggcgt	gctcgccttg	agcctggcga	acagttcggc	tggcgcgagc	7620
ccctgatgct	ctcgttccag	atcacctcga	tcgacaaagc	cggtctccat	cggagtagctg	7680
ctcgcgtcga	tgcgattggt	cgcttggtgg	tcgaatggcg	aggttagcgg	atccagcgta	7740
tgtcgcgcgc	gcattgcac	agccatgatg	gatactttct	cgccaggagc	aaggttgagat	7800
gacaggagat	cctgcgcccg	cacttcgccc	aatagcagcc	agtcctctcc	cgctctcagt	7860
acaaactcga	gcacagctgc	gcaaggaaag	ccgctcgtgg	ccaccacaga	tatgcgcgct	7920
gtctcgtctt	gcagttcatt	cagggcacccg	gacaggtcgg	tcttgacaaa	aagaaccggg	7980
cgccctcgct	ctgcagcccg	gaacacggcg	gcatacagag	cgcatgctgt	ctcgttgtgc	8040
cagtcatacg	cgaattagct	ctccacccaa	gcggcccgag	aacctgcgtg	caatccatct	8100
tgttcaatac	tcgcaaaacga	tctctatcct	gtctcttgat	cagagcttga	ccctctcgcg	8160
catcagatcc	ttggcggcga	gaaagccatc	cagtttactt	tcaggggtct	gtcaaccctta	8220
ccagataaaa	gtctctcatca	ttgaaaaaca	ttcaattcgt	cgacctcgaa	attctaccgc	8280
gtaggggagg	cgcttttccc	aaggcagttc	ggagcatcgc	ctttagcagc	cccgctgggc	8340
acttggcgct	acacaagtgg	ctcttgccct	cgcacacatt	ccacatccac	cggtagccgc	8400
caacccgctc	cgctttttgg	tgcccccttc	gcgccacctt	ctactcctcc	ctcagtcagg	8460
aagtctcccc	ccgcccccgca	ntccgcgtcg	tgcaggacgt	gacaaatgga	aatagcacgc	8520
ctcactagtc	tcgtgcagat	ggacaagcac	cgctgagcaa	tggagcgggt	aggcctttgg	8580
ggcagcggcg	aatagcagct	ttgctccttc	gcttctgtgg	ctcagaggct	ggnaaggggct	8640
gggtccgggg	gcgggtctag	gggcgggctc	agggcgccgg	cgggcgcccg	aaggtcctcc	8700
ggagggccgg	catctgcac	gcttcaaaag	cgcagctctg	ccgcgctggt	ctcctcttcc	8760
tcactctcgg	gcctttgcag	ctgcacccat	ctagatctcg	agcagctgaa	gcttaccatg	8820
accgagtaca	agccccaggt	gcgcctcgcc	acccgcgacg	acgtcccccg	ggcgtacgcg	8880
accctcgccg	cgccgttcgc	gcactaccgc	gccacgcgcc	acacgctcga	cccgcagccgc	8940
cacatcgagc	gggtcacgga	gctgcaagaa	ctcttctcca	cgcgcgtcgg	gctcgacatc	9000
ggcaaggtgt	gggtgcggga	gcagcgcgcg	gcgggtggcg	cttggaaccac	gcgcggagagc	9060
ctggaagcgg	gggcggtgtt	gcgcgagatc	ggccccgcga	tggcgcagtt	gagcggttcc	9120
cggtgcggcg	cgcaccaaca	gatgaaaggc	ctcctggcgc	cgacccggcc	ccaagggagc	9180
cgctggttcc	cttgcgccac	cgtcgggcgt	cttcgccgca	ccaccagggc	aagggctctg	9240
caagcgcttc	cgctgctccc	ggagtggagg	cggccgagcg	cgcgggggtg	ccgcctctcc	9300
tggagacctc	cgccgccccc	aaacctcccc	ctacagagcg	gctcggcttc	accgtcacgc	9360
ccgcagctga	ggtgcccga	ggaccgcgca	cctggtgcat	gacccgcga	cccggtgctc	9420
gacgcgccgc	ccacgcaccg	cagcgcgcga	ccgaaggag	cgacacgccc	catgatacga	9480
tggcactggg	caggtaagta	tcaaggttag	cgccgctaaa	cctggttgct	gactaataga	9540
gtgcacatgt	ttgcatactt	ctgcctctgt	gggagcctgg	ttgctttcca	acaccttaag	9600
gatacacatt	ccacagctgg	ttctttccgc	ctcagaaggt	acacagcgca	aattgtaagc	9660
gttaataatt	tgttaaaatt	cgcgttaaat	ttttgttaaa	tcaagctcatt	ttttaaccaa	9720
tagggccgaa	tcgggcaaat	cccttataaa	tcaaaagaa	agaccgagat	aggggttgagt	9780
gtttgtccag	tttggaacaa	gagtcacata	tggaactccaa	cgtcaaaagg		9840
cgaaaaaccg	tctatcaggg	cgatggccca	c			9871

<210> 25
<211> 10060
<212> DNA
<213> Homo sapiens

<220>
<221> modified_base
<222> (8670)
<223> a, c, t, g, other or unknown

<220>
<221> modified_base
<222> (8822)
<223> a, c, t, g, other or unknown

<400> 25
gatcttcaaat attggccatt agccatatta ttcattgggt atatagcata aatcaaatatt 60
ggctattggc cattgcatac gtgtatctta tatcataata tttacattta tattggctca 120
tgtccaatat gcacgccatg ttggcattga ttattgacta gttattaata gtaatcaatt 180
acggggctcat tagttcatag occatatatg gagttccgcg ttacataact tacggtaaat 240
ggccgcgcctg gctgaccgcc caacgacccc cgcccatgta cgtcaataat gacgtatgtt 300
cccatagtaa cgccaatagg gactttccat tgacgtcaat ggggtggagta tttaacgttaa 360
actgcccact tggcagtaca tcaagtgat catatgccaa gtcccgccttc tattgacgtc 420
aatgacggta aatggccgcg ctggcattat gcccagta tgcacctacg ggactttcct 480
acttggcagt acattctacgt attagtcacg gctattacca tgggtgatcg gttttggcag 540
tacaccaatg ggcgtgggata gcggtttgac tcacggggat ttccaagctt ccaccccatc 600
gacgtcaatg ggaagtgtgt ttggcaccaa aatcaacggg actttccaaa atgtcgtaac 660
aactgcgacg gccgcgcccg ttgacgcmaa tgggcggtag gcgtgtacgg tgggaggtct 720
atataagcag agctcgttta gtgaaccgtc agatcactga attotgcaga cctactgatt 780
aacggccaga tctaatgctag ctctcgtaaa gatgaagcta ctgtcttcta tcgaacaagc 840
atgcgatatt tgccgactta aaaagctcaa gtgctccaaa gaaaaaccga agtgcgccaa 900
gtgtctgaag aacaactggg agtgtcgcta ctctccaaa accaaaagggt ctccgctgac 960
tagggcacat ctgacagaag tggaaatcaag gctagaaaga ctggaacagc tatttctact 1020
gatttttctc cgagaagacc ttgacatgat tttgaaaatg gattctttac aggatataaa 1080
agcatgttta acaggattat ttgtacaaga taatgtgaat aaagatgcgc tcacagatag 1140
attggcttca gtggagactg atatgcctct aacattgaga cagcatagaa taagtgcgac 1200
atcatctacg gaagagagta gtaacaagg tcaagacag ttgactgtat cgcgcgaatt 1260
caggttgagta acgtcacct taaggcctat ctggccgctt aaacagatgt gtataagaga 1320
cagctctctt aagtagacct gtctcttata cacatctaga tcttctgtag agtcgaccaa 1380
ttctcatggt tgacagctta tcatgcgaga tctcgagctt aaacagatgt ctctcagtac 1440
aatctgctct gctgcgcgat agttaagcca gtatctgct cctgcttgtg tgttggaggt 1500
cgctgagtag tgcgcgagca aaatttaagc tacaacaagg caaggcttga ccgcaaatgt 1560
catgaagaat ctgcttaggg ttaggcgctt tgcgctgctt cgcgatgtac gggccagata 1620
tacggtatc ttgggggact aggggtgtgt taggcgccca gcggggcttc ggttgcacgc 1680
ggtagaggat ccgcctcagga tatagtagtt tcgcttttgc ataggggagg ggaatagtag 1740
tcttatgcga tacacttgta gtcttgcaac atggtaacga tgagttagca acatgcctta 1800
caaggagaga aaaagcacgc tgcattgcga ttggttgaag taaggttgta cgtcgtgccc 1860
ttattaggaa ggcaacagac aggtctgaca tggattggac gaaccactga attcgcgatt 1920
cgagagataa ttgtatttaa gtgcctagct cgtacacata acgcctattt gaccattcac 1980
cacatttggt tgccacctca agctgggtac cagctgctag cctcgagacg cgtgatttcc 2040
ttcgaagcct gtcatggttg gtctcgtaaa ctgcactgct cgtgtgtccc agaacatggg 2100
catcggcaga aacgggggac tgccctggcc accgctcagg aatgaattca gatatttcca 2160
gagaatgacc acaacctctt cagtagaagg taaacagaat ctggtgatta tgggtaagaa 2220
gacctggttc tccattctcg agaagaatcg acctttaaag ggtagatta atttagttct 2280
cagcagagaa ctcaaggaa cctccacaagg agctcatttt ctttcagaa gtctagatga 2340
tgcttaaaaa cttactgaac aaccagaatt agcaataaaa gtacacatgg tctggatagt 2400

tgggtggcagt	tctgttttata	aggaagccat	gaatcaccca	ggccattotta	aactattttgt	2460
gacaaggagt	atgcaagact	ttgaaagtga	cacgtttttt	ccagaaattg	atttggagaa	2520
atataaactt	ctgcacgaat	accocaggtg	tctctctgat	gtccaggagg	agaaagccat	2580
taagtacaaa	tttgaagtat	atgagagaaga	tgtaatttaa	gggcaccaat	aactgcctta	2640
aaaaaattac	gccccgcgct	gccactcctc	gcagtaactg	tgtaattcat	taagcattct	2700
gocgacatgg	aagccatcac	agacggcatg	atgaacctga	atcgccagcg	gcagcatcac	2760
cttgtgcgct	tgcgtataat	atttgcccat	ggtgaaaaacg	ggggcggaaga	agttgtccat	2820
attgggcocg	tttaaatcaa	aactggtgaa	actcacccacg	ggattggctg	agacagaaaa	2880
catatctctc	ataaaacctt	tagggaaaata	ggccaggttt	tcacccgtaac	agccocacatc	2940
ttgcgaatat	atgtgtagaa	actgcoggaa	atcgtcgtgg	tattcaactcc	agagcagatga	3000
aaacgtttca	gtttgtctcat	ggaaaacggg	gtacaacagg	tgaacactat	cccatatcac	3060
cagctcaccg	tctttcattg	ccatacggaa	ttccggatga	gcattoatca	ggcgggcaag	3120
aatgtgaata	aaggccggat	aaaactttgt	cttatttttc	tttaccgtct	ttaaaaaggc	3180
cgtaatatcc	agctgaacgg	tctggttata	ggtaacttga	gcaactgact	gaaatgcctc	3240
aaaaatgttt	ttacgatgcc	attgggatat	atcaacgggtg	gtatatccag	tgattttttt	3300
ctccatttta	gcttctcttag	ctcctgaaaa	tctcgataac	tcaaaaaata	gcgcccgtag	3360
tgatcttatt	tcat tatggg	gaaagt ttgga	acctcttacc	tgccgatcaa	cgtctcattt	3420
tcgccaatt	aattaaggcg	cgccgctctc	ctggctagga	gtcacgtaga	aaggactacc	3480
gacgaaaggaa	cttgggtcgc	cggtgtgttc	gtatatggag	gtagtaagac	ctccctcttc	3540
aaacctaaagg	gaggaaactgc	cctgtctatt	ccacaattgc	gtcttaacac	tattgactcg	3600
ctcccccttg	gaatggcccc	tggaccggcg	ccacaaactg	gcccgcctaag	ggagtcactt	3660
gtctgttatt	tcatgtgttt	ttacaaaact	catatatgtg	ctgagggttt	gaaggatgcg	3720
attaaggacc	ttgttatgac	aaagcccgct	cctactcgca	atatcagggt	gactgtgtgc	3780
agctttgaag	atggagtaga	tttgctctcc	tggtttccac	ctatgggtga	aggggctgcc	3840
gcgggaagggt	atgacggaga	tgaaggagat	gaaggaggtg	atggagatga	gggtgaggaa	3900
gggcaggaggt	gatgtaaact	gttagggagac	gcccctaactc	gtattaaaag	cggtgtattc	3960
ccccgcacta	aagaataaact	ccccagtaga	catcatcggt	gctgtttggt	tatttctggc	4020
catctgtctt	gcaccatttt	tcgtctctcc	aaacatggggc	aattggggcat	acccatgttt	4080
tcacgtcaact	cagctcgcgc	ctcaacacct	tctcgcgttg	gaaaacattta	ggcacattta	4140
ctcggtgagc	aatcagacat	gcgcaggcct	tagcctggcc	tccttaaaat	cacctaagaa	4200
tgggagcaac	cagcatgcag	gaaaaggaca	agcagcgaaa	attcacgccc	ccttgggagg	4260
tggcggcata	tgcaaaagat	agcactccca	ctctactact	gggtatcata	tgctgactgt	4320
atatgcatag	ggatagcata	tgtaccocgg	atacagatta	ggatagcata	tactaccocg	4380
atatagatta	ggatagcata	tgtaccocag	atatagatta	ggatagccata	tgtaccocag	4440
atataaatta	ggatagcata	tactaccocag	atatagatta	ggatagcata	tgtaccocag	4500
atatagatta	ggatagccata	tgtaccocag	atatagatta	ggatagcata	tgtaccocag	4560
atatagatta	tgtatccag	atattttgggt	agttatgtct	acccagatat	atatttttac	4620
aaattaggat	agcatatact	acctaatctc	ctattaggat	agcatatgct	accccgatat	4680
agattaggat	agcatatact	accagatat	agattaggat	agcatatgct	acccagatat	4740
agattaggat	agcctatgct	accagatat	aaattaggat	agcatatact	acccagatat	4800
agattaggat	agcatatgct	accagatat	agattaggat	agcctatgct	acccagatat	4860
agattaggat	agcatatgct	atccagatat	ttgggtagta	tatgctaccc	atggccaacat	4920
tagcccccacg	tgctctcagc	gacctcgtga	atatgaggac	caacaacacct	gtgctgtggcg	4980
ctcaggggca	agtggtgtga	atgtgtcttc	cagatcgccg	caatcgccgc	ctctatcttg	5040
cccccccacg	tacttatgca	ggatatcccc	ggggtgccat	tagtgggttt	gtggggcaagt	5100
ggtttgacccg	cagtggttag	cggggttaca	atcagccaag	ttattacacc	cttattttac	5160
agtcacaaac	cgcaggggcg	cgtgtggggg	ctgcgcgctg	ccccctagcc	acaaatttcaa	5220
aaaaaagagt	ggccacttgt	ctttgtttat	ggcccccatt	gcgcgtgacc	ccogttttaac	5280
tttcgggggt	gttagagaca	accagttggag	tccgctcgtg	tcggcgctcca	ctctctttcc	5340
cctgtttaca	aatgagtggt	aaacaacatg	ttcactcgtc	ttggctccctg	ctcgggacac	5400
atcttaataa	ccccagtatc	atattgcact	aggattatgt	gttgcccata	gocataaatt	5460
cgtgtgagat	ggacatccag	tctttacggc	ttgtccccc	cccatggatt	cttatttgta	5520
aaagatttca	gaatgtttca	ttcctacact	agttattttt	gcccaagggg	tttgtgaggg	5580
ttatatttgt	gtcatagcac	aatgccacca	ctgaaccccc	gctccaaagt	cttctctggg	5640
ggcgctacact	gaaaccttgt	tttcgacac	ctcacataca	ccttactggt	cacaactag	5700
cagttattct	attagctaaa	cgaaggagaa	tgaagaagca	ggcgaagagt	caggagagtt	5760
cactgcccgc	tccttgatct	tcagccactg	ccttgtgtac	taaaattggt	cactaccctc	5820

gtggaatcct	gaccccatgt	aaataaaaacc	gtgacagctc	atgggggtggg	agatatcgct	5880
gtctcttagg	acccttttac	taacctaat	tcgatagcat	atgcttcccg	ttgggtaaca	5940
tatgctattg	aattaggggt	agtctggata	gtatatacta	taccocggga	agcatatgct	6000
accoggttag	ggtaacaag	ggggccttat	aaacactatt	gctaattgcc	tcttgagggt	6060
cgctttatcg	gtagctacac	agggccctct	gattgacgtt	gggtgagcct	cccgtagctg	6120
tcctggggcc	ctgggaagta	catgtccccc	agcattgggt	taagagcttc	agccaagagt	6180
tacacatcaa	ggcaatgttg	tgttgcaatc	cacagactgc	aaagtctgct	ccaggatgaa	6240
agccaactcag	tgttggcaaa	tgtgcacatc	catttataag	gattgtcaact	acagtccagag	6300
taaccccttg	tgtttgggtcc	ccccccgtgt	cacatgtgga	acaggggccca	gttggcaagt	6360
tgtaccaaac	aactgaaggg	attacatgca	gtgccccgaa	tacaaaacaa	agctgtctct	6420
cgtaccagcg	aagaaggggc	agagatgccg	tagtcagggt	tagtttgtcc	ggcgcgggcg	6480
ggccgcaagg	cgcgcgcgat	ccacaggacg	gggtgtggtc	ccatgatcgc	gtagtcgata	6540
gtggctccaa	gtagcgaagc	gagcaggact	ggcgcgcgcg	caaagcggtc	ggacagtgtc	6600
ccgagaacgg	gtgcgcatag	aaattgcac	aacgcataata	gcgctagatc	cttgctagag	6660
tcgagatctg	tcgagccatg	tgagcaaaa	gcgcgcaaaa	ggccagggaac	cgtaaaaaagg	6720
cccggttgct	ggcgtttttc	cataggctcc	gccccctga	cgagcatcac	aaaaatcgac	6780
gctcaagtca	gaggtggcga	aaccgcagac	gactataaag	ataccaggcg	tttccccctg	6840
gaagctccct	cgtgcgctct	cctgttcoga	ccttgcgcgt	taccggatac	cttcgcgcct	6900
ttctcccttc	gggaagcgtg	gcgctttctc	atagctcacg	ctgtaggtat	ctcagttccg	6960
tgtagctcgt	tcgctccaag	ctgggctgtg	tgcacgaacc	ccccgttcag	ccgcacccgt	7020
gcgccttacc	cggttaactat	cgtcttgagt	ccaaccgggt	aagacacagc	ttatcgccac	7080
tggcacagct	cactggtaac	aggattagca	gagcgaggta	tgtatggcgt	gctcacagct	7140
tcttgaagtg	gtggcctaac	tacggctaca	ctagaaggac	agtatttggt	atctcgagtc	7200
tgtctgaagc	agttacacct	ggaaaaaggc	tgtgtagctc	tgtatccggc	aaaaaaacca	7260
ccgctggtag	ccggttggttt	ttgttttgca	agcagagat	tacgogcaga	aaaaaaggat	7320
ctcaagaaga	tcctttgatc	ttttctacgc	gggtctgacg	tcagtggaa	gaaaactcac	7380
tgttaaggat	tttggctcatg	agattatcaa	caactagatct	cccttagatc	cttttatcg	7440
tgtaaatatc	cgcacagatg	cgttaaggaga	aaataccgca	tcaggaattc	gtaagcgtta	7500
ataattcaga	agaaactcgt	aagaaggcga	tgaagaaggca	tcgctcgcta	atcggggagc	7560
gcgataccgt	aaagcacgag	gaagcgggtc	gcccattcgc	cgccaaagctc	ttcagcaata	7620
tcacgggtag	ccaacgctat	gtcctgatag	cggtccgcca	caccacagcg	gcccacagtc	7680
atgaatccag	aaaagcggcc	attttccacc	atgatattcg	gcaagcaggg	atcgccatgg	7740
gtcacgacga	gatcctcgcc	gtcgggcgat	ctcgcttga	gcttgcgcaa	cagttcgctg	7800
ggcgcgagcc	cctgatgctc	ttcgtccaga	tcactcctgat	cgacaagacc	ggcttccatc	7860
cgagtacgtg	ctcgctcgat	gcgatgtttc	gcttggtggt	cgaaatgggca	ggtagccgga	7920
tcaagcgtat	gcagccggcc	catgtcatca	gccatgatgg	atactttctc	ggcagccgca	7980
aggtagatg	acaggagatc	ctgccccgcg	acttcgcca	atagccgcca	gtcccttccc	8040
gccttcagtga	caacgtctag	cacagctgcg	caaggaaacg	ccgtcgtggc	cagccacagc	8100
agccgcgctg	ctctcgtctg	cagtttcatc	agggcacccg	acaggtcggt	ctttgacaaa	8160
agaaacgggc	gccctcgcc	tgacagccgg	aaacacggcg	catcacagag	gccgattgtc	8220
tgtttgtccc	agtcatagcc	gaatagctcc	tcaccccaag	cgggccggaga	agctgcgtgc	8280
aatcatcctt	gttcaatcat	gcgaacagat	cctcatcctg	tctcttgatc	acagcttgat	8340
ccctcgccgc	atacagatct	tggcggcgag	aaagccatcc	agtttacttt	gcagggtgct	8400
tcaaccttac	cagataaaa	tgtcatcat	tggaaaaacat	tcaattcgtc	gacctcgaaa	8460
ttctacccgg	taggggagcg	gcttttccca	aggcagttcg	gagcatcgcg	tttagcagcg	8520
ccgctgggca	cttggcgcta	cacaagtggc	ctctggcctc	gcacacatct	ccatccaccc	8580
ggtaggcgcc	aaccgcgtcc	gttttttggt	ggccccctcg	cgccaccttc	tactcctccc	8640
ctagccagga	agttcccccc	cgccccgcac	ctcgctcgtg	cgaggacgtg	acaaatggaa	8700
atgacagctc	tcaatagctc	cgtgcagatg	gacaaagacc	gctgagcaat	ggagcgggta	8760
ggcctttggg	gcagcggcca	atagcagctt	tgtctctcgg	ctttctgggc	tcagaggtgt	8820
gnaaggggtg	ggtcgggggg	cggtctcagg	ggcgggctca	ggggcggggc	ggggcccccga	8880
aggtctctcg	gagcccgccg	attctcgacc	cttcaaaagc	gcacgtctcg	cgcgctgttc	8940
tctctttctc	ctctccggg	cctttcgacc	tgcattccat	tagattctcg	cgagctgaag	9000
cttaccatca	ccagtgtaaa	gccccaggtg	cgctctcgca	cccgcgagca	gctccccgcg	9060
gcggatcgca	ccctcgccgc	cgcttctgcc	gactaccccg	ccaacgcgca	cacgctgcag	9120
cccgaccgcc	acatcgagcg	ggtcaccgag	ctcgaaagac	tcttctccac	gcgcgtcggg	9180
ctcgacatcg	gcaatgtgtg	ggttcggcag	gacggcgccg	cggttggtcg	ctggaccacg	9240

cgggagagcg	tcgaaagcggg	ggcgggtgttc	gcgagatgc	gccccgcgat	ggccgagttg	9300
agcggttccc	ggctggcgccg	gcagcaacag	atggaaggcc	tctctggcgcc	gcaccggggc	9360
caaggagccc	gcgtgggttcc	ttggcccacc	gtcgggcgtc	ttcgcccgcac	caccaggggca	9420
agggtctggc	aagcgcgcgtc	gtgctccccg	gagtggaagg	ggccgagcgc	gccgggggtgc	9480
cgcgcttctc	ggagacccctc	gcgccccgca	acctcccctt	ctacgagcgg	ctcgggttca	9540
cgctcacccg	cgacgtcgag	gtgcccgaag	gaccgcgcac	ctgggtgcgt	accgcgaagc	9600
ccggtgcctg	acgcccgcgcc	cacgaccgcg	agcgcccgac	cgaaggagag	gcaccgcccc	9660
atgcactgat	ggcactggggc	aggtaagtat	caagggttagc	ggccgctaac	ctgggtgtcg	9720
actaatctgag	atgcctgtctt	tgcatacttc	tgcctgtctgg	ggagcctggg	gactttccac	9780
accctaactg	acacacattc	cacagctggt	tctttccgcc	tcagaaggta	cacagcgcaa	9840
attgtaagcg	ttaatatattt	gttaaaattc	gcgttaaaat	tttgttaaat	cagctcatatt	9900
tttaaccaat	aggcggaaat	cgcaaaatc	ccttataaat	caaaagaata	gaccgagata	9960
gggttgagtg	ttgttcocag	ttggaaacag	agtcactaat	taaagaaagt	ggactccaac	10020
gtcaaaagggc	gaaaaaccgt	ctatcagggc	gatggcccac			10060

<210> 26

<211> 7714

<212> DNA

<213> Homo sapiens

<400> 26

tcaacgacag	gagcacgac	atgcgcaccc	gtggccagga	cccaacogctg	cccagagatgc	60
gcgcgctgoc	gctctgggag	atggcggaag	cgatggatat	gttctgcoaa	gggttggttt	120
gcgcattcac	agttctccgc	aagaattgat	tggctccaat	tcttggagtg	gcgaatccgt	180
tagcgagggt	cgcgcggctt	ccattcaggt	cgagggtggc	cggtccatg	cgccgcgacg	240
caacgcgggg	aggcagacaa	ggtatagggc	ggcgctccaca	atccatgcga	accggttcca	300
tgtgctcgcc	gaggcggcat	aaatcgccgt	gacgatcagc	ggtccagtga	tcgaagttag	360
gctggtaaag	gcgcgcgagc	atccttgaag	ctgtccctga	tgttcgtcat	ctacctgcct	420
ggacagcatg	gcctgcacag	cgggcatccc	gatgcccgcc	gaagcgagaa	gaatcataat	480
gggggaaggcc	atccagcctc	gcgtcgcgaa	cgccagcaag	acgtagccca	gcgcgtcggc	540
gcgcattcgoc	gcgataatgg	cctgcttctc	gcgcaaaagt	tttgtggcgg	gaccagtgc	600
gaaggcttga	gcgagggcgt	gcaagattcc	gaataaccga	agcgacaggc	cgatcatcgt	660
cgcgctccag	cgaagcgggt	cctcgccgaa	aatgaccgac	agcgctcgcc	gcacctgtcc	720
tacgagttgc	atgataaaga	agacagtcac	aagtgcggcg	acgatagtca	tgcccccgcc	780
ccacgcgaag	gagctgactg	ggttgaaggc	tctcaaggcg	atcggtcgac	gctctcctt	840
atgcgactcc	tgcattagga	agcagcccag	tagtaggttg	aggccgttga	gtcccccgcc	900
cgcaaggaaat	ggtgcgatga	aggagatggc	gcccaacagt	cccccgggcc	cggggctcgt	960
caccataccc	agccggaaac	aagcgcctac	gagcccgaaag	tggcgagccc	gatctcccc	1020
atcggtgatg	tccggcgatc	aggcgcaccg	aaccgcacct	gtggcgccgg	tgatgcccgc	1080
cacgatgcgt	ccggcgtaga	ggatccacag	gacgggtgtg	gtcgccatga	tcgctgagtc	1140
gatagtggtc	ccaagtagcg	aagcagagcg	gactggcggg	cgcccaagcg	gtcgggacag	1200
tgcctccgga	acgggttgccg	atagaaattg	catcaacgca	tatagcgcta	gcagcacggc	1260
atagtgcact	cggaatggac	gatatcccg	aagaggccgc	acagggcggt	cgagtacggc	1320
cataaaccaag	cctatgccta	cagcatccag	ggtgacggtg	ccgaggatga	cgatgagcgc	1380
atgtttagat	tcgtatacag	gtgcctgact	tttaactgtg	ataaactacc	1440	
gcatttaaaag	ttatcgattt	ccacacatta	tactgagcga	tggttaattgt	caaacagctca	1500
tgcattgacgt	cccgggagca	gacaagcccg	tcaggcgcg	tcagcgggtg	ttggcggggt	1560
tcggggctgg	cttaactatg	cggcatcaga	gcagattgta	ctgagagtcg	accatattcg	1620
gtgtgaaata	ccgcacagat	gcgttaaggag	aaaaataccg	atcaggcgcc	attcgccatt	1680
caggctcgcc	aaatgcttgg	aaggggcgatc	ggtgcccggc	tcttcgcat	taocgcagct	1740
ggcgaaggg	ggatgtgtcg	caaggcgatt	aagtttggga	acgcgcagct	tttccagtc	1800
acgacgttgt	aaaaacgacg	ccagtgaatt	cgagctcata	cttcgaatag	ggataaacagg	1860
gtaattgcgat	agcggcgcca	atcgctctct	taaggtagcc	cggtgcgcga	aacagctatt	1920
atgggtatata	ttgggtggccc	ctagaaagct	tggcgtaatc	atggtcatag	ctgtttctctg	1980
tgtgaaattg	ttatccgctc	acaattccac	acaacatacg	agccggaagc	ataaagctta	2040
aagcctgggg	tgcctaatga	gtgagctaac	tcacattaat	tgogttggcg	tcactgccc	2100

ctttccagtc	gggaaacctg	tctgtccagc	tgcattaatg	accgcgcagg	tgcgcgcgcc	2160
gtaaacccct	accgctgaaa	gttctgcaaa	gcctgatggg	acataagtc	atcagttcaa	2220
cggaaagtca	cacgaaggtt	tttgcgctgg	atgtggcctg	ccggcacogg	gtgcagtttg	2280
cgatgccgga	gtctgatgscg	gttgcgctgc	tgaacaatt	atcctgagaa	taaatgcctt	2340
ggcctttata	tggaaatgtg	gaactgagtg	gatatgctgt	ttttgtctgt	taaacagaga	2400
agctggctgt	tatccactga	gaagcgaaacg	aaacagctgg	gaaaactctcc	cattatcgta	2460
gagatccgca	ttattaatct	caggagcctg	tgtagcgttt	ataggaagta	gtgtctctgc	2520
atgatgcgctg	caagcgggtaa	cgaaaacgat	tgaatatgc	cttcaggaaac	aatgacaaatc	2580
ttctgtcggt	gttactgtga	agtggagcgg	attatgtcag	caatggacag	aacaacactaa	2640
tgaacacaga	accatgatgt	ggtctgtcct	tttacagcca	gtagtgcctg	ccgcagctga	2700
gcgacagggc	gaagccctcg	agtgaagcag	gaagcaccaag	ggaaacagcac	ttatatattc	2760
tgccttacaca	cgatgcctga	aaaaacttcc	cttggggtta	tccacttato	cacggggata	2820
tttttataat	tatttttttt	atagttttta	gatcttcttt	tttagagcgc	cttgttaggcc	2880
tttatccatg	ctggttctag	agaaggtggt	gtgacaaatt	gccctttcag	tgtgacaaat	2940
ccacctcaaa	tgacagtcct	gtctgtgaca	aattgccctt	aaccctgtga	caaattgcc	3000
tcagaagaag	ctgttttttt	acaaagttat	ccctgcttat	tgactctttt	ttatttagtg	3060
tgcacatcta	aaaaacttgt	acacttcaaa	tggatctgtc	atggcggaag	cagcggttat	3120
caatcacaga	aaacgttaaaa	atagcccgcg	aatcgctcag	tcaaacgacc	cttcagggtc	3180
ggcatatagt	ctctcccggg	atcaaaaacg	tatgctgtat	ctgttcogtg	accagatcag	3240
aaaactctgat	ggcaccctac	aggaacatga	cggtatctgc	gagatccatg	ttgtctaaat	3300
tgcgtgaaata	tgcggattga	ccctcgcgga	agccagtaag	tataacccg	atgcattgaa	3360
gagttctcgc	gggaagggaag	tggtttttta	tcgccctgaa	gaggatgcgc	gcgatgaaa	3420
aggctatgaa	ttctttctct	ggtttatcaa	acgtgcgcga	agctccatcc	gagggctcta	3480
cagtgatcaat	atcaaaccat	atctcaattc	cttctttatc	gggttacaga	accggttcac	3540
gcagttctgg	cttagtgaaa	caaaaagaaat	caccaatccg	gttccatcag	gtttttatca	3600
atccctgtgt	cagttactga	agccggatgg	ctcaggcatc	gtctctctga	aaatcgctgc	3660
gatcatagag	cgttaccago	tgcctcaaa	ttaccagcgt	atgcctgact	ctcgccgcgc	3720
cttctctcag	gtctgtgtta	atgagatcaa	cagcagaact	ccaatgcgc	tctcatacat	3780
tgaagaaaa	aaaggccgcgc	agacgactca	tatcgtattt	ctcttcgcgc	atatacatct	3840
catgacgaca	ggatagtcgt	agggttatct	gtcacagatt	tgagggtggt	tcgtcacatt	3900
tgttctgacc	tactgagggt	aattttgtcac	agttttgtgt	tttctctcag	octgcatgga	3960
ttttctcata	ctttttgaac	tgtaattttt	aagggaagcca	aattttaggg	cagtttgtca	4020
cagttgattt	ctctctcttt	cccttcgtca	tgtgacctga	tatccgggggt	tagttcgtca	4080
tcattgatga	gggttgatta	tcacagttta	ttactctgaa	ttggctatcc	cagtggtgtac	4140
ctctacctgg	agttttttccc	acggtggata	tttctctgtg	cgctgagcgt	aagacgtatc	4200
tgcacagaaca	gttctttctt	gcttctctgc	cagtttcgtc	gctatgcctg	gtttacaacgg	4260
tgcggcgagc	gctagtgtata	ataagtgaact	gaggttatgtg	ctcttcttat	ctcttttgtt	4320
agttgtgctc	ttattttcaa	caactttcgc	gttttttgtat	gaactttgca	tttttgttgt	4380
gcctttgcagt	aaattgcaaa	atttaataaa	aaaaacgcaaa	ccaatgata	aaggatgttc	4440
agaatgaaac	tcattgaaac	acttaaccag	tgcataaaacg	ctggatcatga	aatgacgaag	4500
gctatcgcca	gtgcacagtt	taatgatgac	agcccggaag	cgaggaaaaat	aaaccggcgc	4560
tggagaaatag	tgaagcagc	ggatttagtt	ggggtttctt	ctcaggtcat	cagagatgcc	4620
gagaaagcag	ggcgactacc	gcaccoggat	atggaaaatc	gaggacgggt	tgaacacgt	4680
gttggttata	caattgaaca	aattaatcat	atgcgtgatg	gttttggtac	tgagttgcga	4740
ctgtctgaag	acgtatttcc	accggtgatc	gggggttgctg	cccataaagg	tggcggtttac	4800
aaaaactcag	ttttctgtca	tcttgctcag	gatctggctc	tgaaggggct	acgtgttttg	4860
ctcgtggaag	gtaaacgacc	ccagggaaca	gcctcaatgt	atcacgggatg	ggtaaccagat	4920
ctctaatatt	atgcagaaga	cactctcctg	ctctctctac	ttggggaaaaa	ggaagatgtc	4980
actttatcoa	taaaagccac	ttgctggcgc	gggcttgaca	ttattctctc	ctgtctggct	5040
ctgcaccgtga	tgaaaactga	gttaatgggc	aaatttgatg	aaggtaaaact	gcccaacgat	5100
ccacactctga	tgtctcagact	ggccattgaa	actgttgctc	atgactatga	tgtcatagtt	5160
atfgacagcgc	gcctcaactc	gggtatcggc	acgattaatg	tgtatgtatg	gtctagtgtg	5220
ctgatttgtc	ccacgcctgc	tgagttgttt	gactacacct	ccgcactgca	gtttttctgat	5280
atgcttcggt	atctctcaaa	gaacgttgat	cttaaaaggt	tcagacgtctg	tgtacgtatt	5340
ttgctttacca	aatacagcaa	tagttaatggc	tctcagtcoc	cgtggatgga	ggagacaaat	5400
cgggatgcct	tgggaagcat	ggttctaaaa	aatgtgtac	gtgaacagg	tgaagttggg	5460
aaaggtcaga	tcgggatgag	aactgttttt	gaacaggcca	tgtcatcaacg	ctcttcacgt	5520

ggtgcttgg	gaaatgctct	ttctatttgg	gaacctgtct	gcaatgaaat	tttgcgtcgt	5580
ctgattaaac	caacgtctggga	gattagataa	tgaagcgtgc	gcctgttatt	ccaaaacata	5640
cgctcaatac	tcaaccggtt	gaagatactt	cggtatcgac	accagctgcc	ccgatggtgg	5700
attcgtaatt	tgcgcgcgcta	ggagtaattg	ctcgcggtaa	tgcacttact	ttgcgtgtat	5760
gtggctcggga	gtgtgaagttt	actcttgaag	tgcctccggg	tgatagtggt	gagaagacct	5820
ctcgggtatg	gtcaggtaaat	gaacgtgacc	aggagctgct	tactgaggac	gcactgggatg	5880
atctcatccc	ttctttttcta	ctgactggtc	aacagacacc	ggcgttcggg	cgaagagatt	5940
ctggcttcac	agaaattgcc	gatggggagtc	gcgtctgtga	agctcgtgca	cttaccgaaa	6000
gtgattatcg	tgtctctggtt	ggcgagctgg	atgatgagca	gatggctgca	ttatccagat	6060
tgggtaacga	ttatcgcccca	acaagtgcct	atgaacgtgg	tcagcggtat	gcaagccgat	6120
tgcagaatga	atttgcctgga	aatattttctg	cgctggctga	tgcggaaaat	atttcacgta	6180
agattattac	ccgctgtatc	aacaccgcca	aattgcctaa	atcagttggt	gctctttttt	6240
ctccaccggg	tgaactatct	gcccggtcag	gtgatgcact	tcaaaaagcc	tttacagata	6300
aagaggaaatt	acttaagcag	caggcatcta	accttcatga	gcagaaaaaa	gctggggtga	6360
tatttgaagg	tgaagaagtt	atcactcttt	taacttctgt	gcttaaaacg	tcatctgcac	6420
caagaactag	tttaagctca	cgacatcagt	ttgctctctg	agcgacagta	ttgtataagg	6480
gcgataaaat	ggtgcttaac	ctggacaggt	ctcgtgttcc	aactgagtg	atagagaaaa	6540
ttgagggcat	tcttaaggaa	cttgaaaaagc	cagcacccctg	attcgacac	gcttttagctt	6600
acgttttact	gtcttttact	aatgtctctt	gttacaggcc	agaaagcata	actggccctga	6660
atattctctc	tggggccagaa	gcttggccca	ctgttccact	tgtatcgtcg	ctctgatgaa	6720
cagactggga	ccaacggtccc	actcgtatcg	tgggtctgat	tattagctcg	gttaccacggt	6780
cccatctgta	tgcgtcgtct	gattattagt	ctgggacac	ggctccactc	gtatcgtcgg	6840
cttgataatc	agactgggac	caacgtccca	ctcgtatcgt	cggtctgatt	attagctctgg	6900
gacactggtc	ccactcgtat	cgtcgtctcg	attattagtc	tgggacacac	gtccactcgc	6960
tatcgtcgtg	ctcgtattta	gtctggaaac	acggtccacc	tgcgtatcgc	ggctcgtgta	7020
ttagtctcgg	accacggctcc	cactcgtatc	gtcgtctgta	ttattagctc	gggacacga	7080
teccactcgt	gttctcgtct	tgattatcgg	ctcgggacca	cggctccactc	tgtattgtcg	7140
atcagactat	cagcgtgaga	ctacgattcc	atcaatgcct	gtcaagggca	agttatgaca	7200
tgtcgtcgtg	acctgtagaa	cggagtaaac	tgggtgtcgg	ttgtatcgct	tgcgtgggat	7260
gtcgtcgtctg	tctcgtctat	cccaaacatt	tgcgcacgg	ttatgtgga	aaaataacctg	7320
cgttagagaa	aagagtttgt	agaaaacgcaa	aaaggccatc	cgtaaggatg	gccttctcgt	7380
taattttagt	cctggcagtt	tatggccggc	gtcctgcctg	ccacctccg	ggccggttgc	7440
tgcgaacgtt	caaatccgct	cccgccggat	tgtccttact	caggagagcg	ttcacccgaca	7500
aacaacagat	aaaaacgaaa	gccagtcctt	tcgactgagc	cttctcgttt	atttgatgcc	7560
tggcagttcc	ctactctcgc	atggggagac	cccacactac	catcggcgct	acggcggttc	7620
actctgtagt	tggcagtggt	gtcaggtggg	accaccgcgc	tactgcgcc	aggcaaatc	7680
tgttttaaca	gacgcctctc	gcgtctctggg	cgcg			7714

<210> 27
 <211> 5314
 <212> DNA
 <213> Homo sapiens

<400> 27						
gatcttcaat	attggccatt	agccatatta	ttcattgggt	atatagcata	aatcaatatt	60
ggctattggc	catgtgcatac	gttgtatcta	tatcataata	tgtacattta	tattgggtca	120
tgtccaatat	gacgcgcacg	ttggccattga	tatttgacta	gttattaata	gtaatacaat	180
acggggctcat	tagttctcatg	cccatatatt	tgttctccgc	ttacataact	tacggtaact	240
ggccgcgcctg	gctgacgcc	caacgacccc	cgcccatgtga	cgtcaataat	gacgtatgtt	300
cccatagttaa	cgccataatagg	gactttccat	tgacgtcaat	gggtgcgaat	tttacggtaa	360
actgcccact	tggcagtgaca	tcaagttgat	catatgccaa	gtcgcgcgcc	tattgacgtc	420
aatgacggta	aatggcccgcc	ctggcattat	gccacgttaca	tgacctttacg	ggaactttctc	480
tactggcagtg	acatctcactg	attatgtcatc	gctattacca	tgggtgatgoc	gttttggcag	540
ttaccacaaatg	ggcgtaggata	gcgggtttgac	tcacggggat	ttccaaatgt	ccaccocatt	600
gacgtcaatg	ggagtttgtt	ttggcaccac	aatcaacggg	actttccaaa	atgtcgtaac	660
aactgcgatac	gccgcgcccg	ttgacgcaaa	tggcggtag	cgctgtacgg	tgggaggtct	720

atataagcag	agctcgttta	gtgaaccgtg	agatcactga	attctgacga	cctactgatt	780
aacgggccata	gagggcctcct	gcagaactgt	cttagtgaca	actatcgatt	tcacacactt	840
atacgagccg	atgtttaattg	tcaacagctc	atgcatgacg	tcccggggagc	agacaagccc	900
gaccatggct	cgagtaatac	gactcactat	agggcgacag	gtgagctactc	gctacacctaa	960
gagagggccca	tctggccgact	tagcagtcga	agaaagaagt	ttaagagagc	cgaaacaagc	1020
gctcatgagc	cggaagtggc	gagcccgatc	ttcccactcg	gtgatgtcgg	cgatataggc	1080
gccagcaaac	gcacctgtgg	gcgcggatgc	gccggccacg	atcgctccgg	cgtagaggat	1140
ccacaggaag	gggtgtgtcg	ccatgatcgc	gtagtgcata	gtggctccaa	gtagcgaagc	1200
gagcaggactg	ggggcgggcg	caaagcggctc	ggacagtgct	ccgagaacgg	gtgcgcgatg	1260
aaattgcctc	aacgcataata	gcgctagatc	cttgtctagag	tcgagatctg	tcgacgaagc	1320
tgcagcaaaa	gccagcaaaa	ggccaggaaac	cgtaaaaagg	cgcgcttgct	ggcgctttttc	1380
cataggctcc	gccccctga	cgagcatcac	aaaaatcgac	gctcaaagca	gaggtggcga	1440
aaccggacag	gactataaag	ataccaggcg	tttcccctcg	gaagctccct	cgtgcgctct	1500
cctgttccga	ccctgcgcct	taccggatag	ctgtccgcct	ttctcccttc	gggaagcgtg	1560
gcgctttctc	atagctcaag	ctgtaggtag	ctcagttcgg	tgtaggctgt	tcgctccaaag	1620
ctgggctgtg	tgcacgaacc	ccccgttcag	cccgaccgct	gcgccttacc	ccgtacactat	1680
cgtcttgagt	ccaacccggg	aagacacgac	ttatcgccac	tggcagcagc	ctgtggtaac	1740
aggattagca	gagcggagga	tgtaggcggt	gctacagagt	tcttgaagtg	tgggcctaac	1800
tccggctaca	ctagaaggac	agtatttggg	atctgcgctc	tgtctgaagc	agttaccctc	1860
ggaaaaaag	tgggtagctc	tgtatccggc	aaacaaacca	ccgctggttag	ccgtgggtttt	1920
tttgtttgca	acgacagatg	tacgcgcgca	aaaaaaggat	ctcaagaaga	ctctttgtag	1980
ttttctacgg	ggtctgacgc	tcagtggaaac	gaaaactcac	gttaagggat	tttggtcatg	2040
agatttatcaa	aaaggatctt	cacctagatc	cttttatcgg	tgtgaaatc	cgccacagatg	2100
cgtaaggaga	aaataccgca	tcaggaaatt	gtaagcgtaa	ataattcaga	agaaactcgct	2160
aagaagcgga	tagaaggcga	tgcgctgcga	atcgggagcg	gcgataccgt	aaagcacagag	2220
gaagcggtca	gccccattcg	gcgcaagctc	ttcagcaata	tcacgggttag	ccaaacgctat	2280
gctctgatag	cggtccgcga	caccacagcg	gcacacagtc	atgaatccag	aaaagcgccc	2340
attttccacc	atgatattcg	gcaagcaggc	atcgccatgg	gtcacgacga	gatcctcgcc	2400
ctcgggcgct	ctcgctttga	gcctggcgaa	cagttcggct	ggcgcgagcc	ctcgatgcctc	2460
ttcgtccaga	tcactcctgat	cgacaagacc	ggcttccatc	cgagtcagtg	ctcgctcgat	2520
gcgatgtttc	gcttggtggg	cgaaagggca	ggtagccgga	tcaagcgtag	gcagcccgcc	2580
catctgcatc	gcoactgatg	atactttctc	ggcaggagca	aggtgagatg	acagagagat	2640
ctgcgccggc	acttcgcccga	atagcagcca	gtcccttccc	gcttcagtga	caacgtcgag	2700
cacagctcgc	caaggaaacg	ccgtcgtggc	cagccacgat	agccgcgctg	cctcgtcttg	2760
cagttcattc	agggcaccgg	acaggtcggg	cttgacaaaa	agaacccggg	gcccctgcgc	2820
tgacagccg	aaacccgggg	catcagagca	gcgattgtgc	tgttgtgccc	agtcatagcc	2880
gaatagcctc	tccaccgaag	cgggccggga	acctgcgtgc	aatccatcct	gttcaatcat	2940
gcgaaacgat	cctcatcctg	tctcttgatc	agagcttgat	ccccctgcgc	atcagatcct	3000
tggcgccgag	aaagccatcc	agtttaacttt	gcagggtctg	tcaaccttac	cagataaaaa	3060
tgctcatcat	tgaaaaacgt	tcaattctga	ggcggaaga	accagctgtg	gaatgtgtgt	3120
catgtagggt	tgaggaaatc	ccccaggtcc	ccagcaggga	gaagtatgca	aagcatgatc	3180
ctcaattagt	cagcaaccag	gtgtgggaa	tccccaggct	ccccagcgatg	cagaagtagt	3240
caaaagcatgc	atctcaatta	gtcagcaacc	atagtcocgc	ccctaactcc	gcccataccg	3300
ccccaaactc	gcgccagttc	cgcccattct	ccgccccatg	gctcagccca	tttttttaatt	3360
tatgcagagg	ccgaggccgc	ctcgccctct	gagctattcc	agaaagttagt	aggaggcttt	3420
tttggaggcc	taggtctttg	caaaaagctt	gattctctct	acaccaacagt	ctcgaaacta	3480
aggcttagagc	caccatgatg	gaacaagatg	gattgcacgc	aggttctccg	gcgcgtttggg	3540
tggagaggct	attcggtatg	gactgggcac	aacagacaat	ccgctgcctc	tactgcgccg	3600
tgttccggct	gtcagcgccg	gggcgccggc	ttctttttgt	caagaaccgac	ctgtccgggtg	3660
ccttgaaatga	actgcaggac	gaggcagcgc	ggctatcgtg	gctgcgccag	accggcgcttc	3720
cttgcgcagc	tgtgctcgac	gttgtcactg	aagcgggaag	ggactggctg	ctattggggg	3780
aagtgcgggg	gcaggatctc	ctgtcatctc	accttgctcc	tgcgcagaaa	gtatccatca	3840
tggctgatgc	aagtgcgggg	ctgcatacgc	ttgatccggc	tactctccca	ttcgaccacc	3900
aagcgcaaaa	tcgcactcgag	cgagcacgta	ctcggtatgga	agccggtctct	ctgcactcagg	3960
atgatctggga	cgaagagcat	caggggctcg	cgccacggga	actgtgcggc	aggctcaagg	4020
cgcgcctgcc	cgacggcgag	gatctcgtcg	tgaccatagg	cgatgcctgc	ttgcggaata	4080
tcattggtgga	aaatggccgc	ttttctggat	tcactcgactg	tggccggctg	gggtgtggcg	4140

accgctatca	ggacatagcg	ttggctaccc	gtgatattgc	tgaagagott	ggcggcgaat	4200
gggctgacgc	cttctcgtg	ctttacggta	tgcgcgtcc	cgattcgcag	cgcatcgcc	4260
tctatcgct	tcttgacgag	ccattctgct	ggatggctac	aggctgcagc	cctggcgctg	4320
tgattagtg	tgatgaacca	ggttatgacc	ttgatttatt	ttgcatacct	aatcattatg	4380
ctgaggattt	ggaagggtg	tttattctc	atggactaat	tatggacagg	actgaacgtc	4440
ttgctcgaga	tgtgatgaag	gagatgggag	goccatcacat	tgtagccctc	tgtgtgctca	4500
agggggggcta	taaaattcttt	gctgacctgc	tggattacat	caaagcactg	aatagaaatt	4560
gtgatagatc	cattcctatg	actgtagatt	ttatcagact	gaagagctat	tgtaatgacc	4620
agtcacacagg	ggacataaaa	gtaattgggt	gagatgatct	ctcaacttta	actggaaaaga	4680
atgtcttgat	tgtggaagat	ataattgaca	ctggcaaaac	aatgcagact	ttgttttctt	4740
tggtcaggca	gtataatcca	aagatgggtc	aggctcgcaag	cttgcgtggg	aaaaggaccc	4800
cacgaagtgt	tggtatataag	ccagactttg	ttggatttga	aattccagac	aagtttgttg	4860
taggatattgc	ccttgactat	aatgaatact	tcagggattt	gaatcatggt	tgtgtcaata	4920
gtgaaactgg	aaaagcaaaa	tacaaaagcct	aagcggccgc	taacctgggt	gctgactaat	4980
tgagatgcac	gctttgcata	cttctgcctg	ctggggagcc	tggggacttt	ccacacccta	5040
actgacacac	attccacagc	tggttcttct	cgctcagaa	ggtacacagg	cgaaattgta	5100
agcgttaata	ttttgttaaa	attcgcgtta	aatttttgtt	aaatcagctc	attttttaac	5160
caataggcgc	aaatcggcaa	aatcccttat	aatcaaaaag	aatagacctg	gatagggtcg	5220
agtgtgttc	cagtttggaa	caagagtcca	ctattaaaga	acgtggactc	caacgtcaaa	5280
ggcgcaaaaa	cgtctatca	ggcgatggc	ccac			5314

```

<210> 28
<211> 9737
<212> DNA
<213> Homo sapiens

<220>
<221> modified_base
<222> (8347)
<223> a, c, t, g, other or unknown

<220>
<221> modified_base
<222> (8499)
<223> a, c, t, g, other or unknown

```

<400> 28						
gatcttcaat	attggccatt	agccatatta	ttcattgggt	atatagcata	aatcaatatt	60
ggctattggc	cattgcatac	gttgatatcta	tatcataata	tgtacattta	tattgggtca	120
tgtccaatat	gaccgccatg	ttggcattga	ttattgacta	gttattaata	gtaatcaatt	180
acggggctcat	tagttccatag	cccatatatg	gagttccgcg	ttacataact	tacggtaaat	240
ggcccgctcg	gctgacgcgc	caacgacccc	cgcccattga	cgctcaataat	gacgtatggt	300
cccatagtaa	cgccaatagg	gactttccat	tgacgtcaat	gggtggagta	tttacggtaa	360
actgcccact	tggcagtaca	tcaagtgtat	catatgccaa	gtccgcccc	tattgacgtc	420
aatgacggta	aatggcccgc	ctggcattat	gcccagtaca	tgaccttacg	ggactttcct	480
acttggcagt	acatctacgt	attagttcat	gctattacca	tgggtgatgcg	gttttggcag	540
tacaccaagt	ggcgtggata	gcgggttgac	tcacggggat	ttccaaagtc	ccaccacctt	600
gacgtcaatg	ggagtttgtt	ttggcaccaa	aatcaacggg	actttccaaa	atgtcgtaac	660
aactgcgcat	gcccgcgccg	ttagcgcmaa	tgggcggtag	gcgtgtacgg	tggggaggtct	720
atataagcag	agctcgttta	gtgaaccgtc	agatcactga	attctgacga	cctactgatt	780
aacggccata	gaggcctcct	gcagaactgt	cttagtgaca	actatcgatt	tcocacacatt	840
atacgagcgc	atgttaattg	tcaacagctc	atgcgatgac	tcccgggagc	agacaaagcc	900
gaccatggct	cgagttaata	gactcaactat	aggggacag	gtgagtactc	gtacaccttaa	960
ggcctatctg	gcggttttaa	cagatgtgta	taagagacag	ctctcttaag	gtagcgtgtc	1020
tcttatcac	atctagatcc	ttgctagagt	cgaccaatct	tcactgttga	cagcttatca	1080
tcgcagatcc	tgaagcttga	tgggtgcactc	tcagtacaat	ctgctctgct	gcgcgatagt	1140

taagccagta	tctgtccct	gcttgtgtgt	tggaggtgc	tgagtgtgc	gcgagcaaaa	1200
tttaagctac	aacaaggcaa	ggcttgaccg	acaattgcat	gaagaatctg	cttaggggta	1260
ggcggttttc	gctgcttcg	gatgtacggg	ccagataatc	gcgtatctga	ggggactagg	1320
gtgtgttttg	gcgcgccagc	gggcttcggg	tgtacgcggt	taggagctcc	ctcaggatat	1380
agtagtttcg	cttttgcata	gggaggggga	aatgtagtct	tatgcaatcc	acttgtagtc	1440
ttgcaacatg	gtaacgatga	gttagcaaca	tgccttaaca	ggagagaaaa	agcaccgtgc	1500
atgcgatctg	gtggaagtta	ggtgtgacga	tcgtgctcta	ttaggaaagg	aacagacagg	1560
ctgcacatga	attggacgaa	ccactgaatt	gcgcattgca	gagataattg	tatttaagtg	1620
ctctagctcga	tacaataaac	gccatttgac	cattcaaccac	attggtgtgc	acctccaagc	1680
gggtatccag	tgctagacct	cgagacgctg	gattctcttc	cgagctgttc	cttgttgtt	1740
cgctaaactg	catogtcgct	gtgtcccaga	acatgggcat	cggcaagaac	ggggacctgc	1800
ctctggccacc	gctcagggaat	gaattccagat	attccagag	aatgaccaca	acctcttcag	1860
tagaagggtaa	acagaaatctg	gtgattatgg	gtaagaagac	ctggttctcc	attcctgaga	1920
agaatcgacc	tttaaaagggt	agaatttaatt	tagttctcag	cagagaacctc	aaggaaacctc	1980
caacaggagc	tcaattttctt	tccagaagtc	tagatgatgc	cttaaaacctt	actgaacaac	2040
cagaatttagc	aaataaaagta	gacatgggtc	ggatagttgg	tggcagttct	gtttataagg	2100
aagccatgaa	tcaccccaggc	catcttaaac	tatttgtgac	aaggatcatg	caagaaatttg	2160
aaagtgtacac	gtttttttcca	gaaattgatt	tggagaaata	taaaactctg	cgagaatacc	2220
caggtgtctct	ctctgtatgtc	caggaggaga	aaggcattaa	gtacaaattcc	gaagtatatg	2280
agaaagtatgt	taattaaagg	caccaataac	tgccttaaaa	aaattacgct	cgccctgcc	2340
actcatcgca	gtactgttgt	aattcattaa	gcattctgcc	gacatggaa	ccatcacaga	2400
cggcatgtgc	aaacctgaatc	gcgcaggcca	tcagcacctt	gtgccttgc	gatatatttt	2460
tgcccatgggt	gaaaacgggg	gcgaagaagt	tgtccatatt	ggccacggtt	aaatcaaaac	2520
tggtgaaact	caccocaggga	ttgggtgaga	cgaaaaacat	attctcaata	aacctcttag	2580
ggaaataaggc	cagggttttca	ccgtaacacg	ccacatcttg	cgaaataatg	tgtagaacct	2640
gccggaaatc	gtcgtgggat	tcactccaga	gcgatgaaaa	cgttttcagtt	tgtcatgcca	2700
aaacgggtcta	acaagggtga	acactatccc	atataccagg	ctcaccgtct	ctcgttgaga	2760
tacgggaatc	cggatgagca	ttcatcaggc	gggcaagaat	gtgaataaag	gcgggatata	2820
actctgtcct	atttttcttt	acggctctta	aaaaggccgt	aataatccagc	tgaacggtct	2880
gggtataggt	acattgagca	actgactgaa	atgcctcaaa	atgttcttta	cgatgccatt	2940
gggatatact	aacgggtgta	tatccagtga	ttttttttct	cattttagct	tccttagctc	3000
ctgaaaaatc	cgataactca	aaaaatacgc	coggtagtga	tcttatttca	ttatggtgaa	3060
agttggatgc	ctttacgtgc	cgatcaacgt	ctcaatttcg	ccaaattaat	taaggcgctc	3120
cgctctcctg	gctaggagtc	acgtagaaga	gaactacgac	gaaggaaact	gggtcgccgg	3180
tgtgttcgta	tatggaggta	gtaagacctc	cctttacaac	ctaaggcgag	gaactgccct	3240
tgtctatcca	caatgtcctc	ttacaccatt	gagtcgtctc	ccctttggaa	tggccctgtg	3300
acccggccca	caacctggcc	cgctaaggga	gtccattgtc	tgttatttca	tgtgtctttt	3360
acaaactcat	atatttgtgt	aggttttgaa	ggatgcgatt	aaggacacct	ttatgacaaa	3420
gcgccgtctc	acctgcaata	tcagggtgac	tgtgtgcagc	ttgacagatg	gagtagattt	3480
gcctccctgg	tttccacctta	tggtggaagg	ggctgcgcg	gagggtgatg	acggagatga	3540
cggagatgaa	ggagggtgat	gagatgaggg	tgaggaaagg	cgaggatgat	tgaacttgtt	3600
aggagacgcc	ctcaactcgt	ttaaaagccg	tgtattcccc	cgcactaaag	aataaattcc	3660
cagtagacat	catcgctgct	gttggtgtat	ttctggccat	ctgtcttctg	acctttttcg	3720
tcctcccaac	atggggcaat	tgggcatacc	catgttgtca	atgccaactc	ctgcgcgctc	3780
aacacctctt	cggcttgaaa	aacattagcg	acatttaacct	ggtgagcaat	cagacatcgc	3840
acggctttag	cttggcctcc	ttaaattcac	ctaaagaatg	gagcaaacag	catcgaggaa	3900
atggacaagc	agcgaaaatt	cacgccccct	tgggagggtg	cggcatatgc	aaaggatagc	3960
actcccaact	tactactggg	tatcatatgc	tgaactgtata	tgcatgagga	tagcatatgc	4020
taccocagata	cagattagga	tagcatatgc	taccocagata	tagattagga	tagcatatgc	4080
taccocagata	tagattagga	tagcatatgc	taccocagata	taaatttagga	tagcatatgc	4140
taccocagata	tagattagga	tagcatatgc	taccocagata	tagattagga	tagcatatgc	4200
taccocagata	tagattagga	tagcatatgc	taccocagata	tagattagga	tagcatatgc	4260
tatccagata	tttgggtagt	atatgctacc	cagataataa	ttaggatagc	atatactacc	4320
ctaatctcta	ttaggatagc	atatgctacc	cggatacaga	ttaggatagc	atatactacc	4380
cagatataga	ttaggatagc	atatgctacc	cagatataga	ttaggatagc	ctatgctacc	4440
cagataataa	ttaggatagc	atatactacc	cagatataga	ttaggatagc	atatactacc	4500
cagatataga	ttaggatagc	ctatgctacc	cagatataga	ttaggatagc	atatactacc	4560

cgagatatttg	ggtagtatat	gotaccocatg	gcaacatttag	cccaccgtgc	tctcagcgac	4620
ctcgtgaata	tgaggaccaa	caacctctgtg	cttggcgctc	aggcgcaagt	gtgtgttaatt	4680
tgtcctccag	atcgcgagaa	tcgcgcacct	atcttggccc	gcccacctac	ttatgcaggt	4740
attccccggg	gtgcacattag	tgtttttgtg	ggcaagtgg	ttgacgcgag	tggttagcgg	4800
ggttacaact	agccaaagta	ttacacctct	attttacagt	ccaaaaccgc	agggcgcggt	4860
gtggggcgct	accgctgccc	ccactccaca	atttcaaaaa	aaagagtggc	cacttgtctt	4920
tgtttatggg	ccccattggc	gtggagcccc	gtttaatttt	cgggggtgtt	agagacaacc	4980
agtggagtc	gcgtcgtgc	gcgtccactc	tcttccctct	tgttacaagt	agagtgttaac	5040
aaactgggtc	acctgctctg	gtccctgect	gggacacatc	ttaataaccc	cagtatcata	5100
ttgcagctac	attatgtgtt	gcccataggc	ataaattcgt	gtgagatgct	ccactcagct	5160
ttacggcttg	tccccacccc	atggatttct	attgttaaa	atattcagaa	tgtttcattc	5220
ctacactagt	atttattgcc	caaggggttt	gtgagggtta	tattggtgtc	atagocaaat	5280
gccaccactg	aaacccccgt	ccaaatttta	ttctgggggc	gtcacctgaa	accttgtttt	5340
cgagcacctc	acatacacct	tactgttcac	aaactcagcag	ttattctatt	agctaaacga	5400
aggagaatga	agaagcagcg	gaagattcag	gagagttcac	tgcccgcgtc	ttgatcttca	5460
gccactgcct	ttgtgactaa	aatggttcac	tacctcgtg	gaactcgtac	cccatgtaaa	5520
taaaaccctg	acagctcatg	gggtggggaga	tatcgctgtt	cccttaggac	cttttactaa	5580
ccctaattcg	atagcatatg	cttcccgctg	ggtaacata	gcatttgaat	tggggttagt	5640
ctggtagtga	tatactacta	cccggggaagc	atatgctacc	cgtttagggc	taaccaagggg	5700
gccttataaa	cactatttct	aatgcctctc	tggaggtccg	cttatcggtg	gctacacaggt	5760
ccccctctgat	tgaagtttgt	gtagctctcc	gtagtcttcc	tggtccccct	ggaggtacat	5820
gtcccccgac	atgtgtgtaa	gagcttcacg	caagagttac	acataaaagg	aatgttgtgt	5880
tgcagctccac	agactgccaa	gtctgctcca	ggatgaaagc	cactcagtg	tggcaaatgt	5940
gcacatccat	ttataaggat	gtcaactaca	gtcagagaac	cccttttgtt	tgggtcccc	6000
ccccgtgcac	atgtggaaaca	gggcccagtt	ggcaagttgt	accaaccac	tgaagggatt	6060
acatgcactg	ccccgaatac	aaaacaaaag	cgctcctcgt	accagcgaag	aaggggcaga	6120
gatgcgcctag	tcaggttttag	ttcgtccggc	ggcgggcggc	cgcagggcgc	cgagagttcca	6180
caggacgggt	gtggctgccca	tgatcgogta	gtcagatagt	gctccaagta	gcgaagcgag	6240
caggactccg	ggggcgccaa	agcggtcgga	cagtgctccg	agaacgggta	cgcaagcgaa	6300
ttgcaccaac	gcataatagc	ctagatcctt	gctagagtcg	agatctgtcg	agccatgtga	6360
gcaaaaggcc	agcaaaaggc	caggaaaccgt	aaaaaggccg	ogttgtctgg	gtttttccat	6420
aggctccgcc	ccccctgacg	gcatacaaaa	aatcgacgct	caagtcagag	gtggcgaaaa	6480
ccgacagcac	tataaagata	ccaggcgctt	ccccctggaa	gctccctcgt	gcgcctcctc	6540
gttcogagcc	tgcccgctac	cggtatacctg	tccgccttct	tcccttcggg	aaagcgtggc	6600
ctttctcata	gctcaecgtg	taggtatctc	agttcgggtg	aggtcgtctc	ctccaagctg	6660
ggctgtgtgc	acgaaccccc	cgttcagccc	gaccgcgtcg	ccctatccgg	taactatcgt	6720
attagcagag	cccggttaag	acacgactta	tcgcactgg	cgcagccac	tggttaacagg	6780
ggatcacata	cgaggtatgt	aggcggtgct	acagagttct	tgaagtggtg	tccctaactac	6840
aaaagagctg	gaaggacagt	atttggtatc	tgcgctctgc	tgaagccagt	tacccttcgga	6900
gtttcgcaag	gtagctcttg	atccggcaaa	caaaaccacg	ctgttagcgg	tggttttttt	6960
tctacggggg	acgacgatac	gcgcagaaaa	aaagagatct	aaagaagatc	tttgatcttt	7020
ttatcagaaa	ctcagcgtca	gtggaaacgaa	aactcacggt	aaaggatttt	gggtcatgaga	7080
aaagcaaaaa	ggatcttcac	ctagatcctt	ttatcgggtg	gaataaccgc	acagatcggt	7140
aagggcgatag	taccgcatac	ggaaattgta	agcgttaata	attcagaaga	actcgtcaga	7200
gcggctcagc	aaggcgatgc	gctgcgaatc	ggggagcgcg	ataccgttaa	gcacgagggaa	7260
ctgatagcgg	catttcgcgc	caagctcttc	agcaatatca	cgggtagccca	ccgctatctc	7320
ttccaccatg	tcocgcacac	ccagccggcc	acagtcgatg	aatccagaaa	agcggccatt	7380
gggcattgctc	atatctggca	agcaggcatc	gccatgggtc	acgacagata	ctcgcgcgtc	7440
gtccagatca	gccttgagcc	tggcgaaacg	ttcggctggc	gcgagccctc	gatgctcttc	7500
atggttcgct	tccctgatcga	caagaccggc	ttccatccga	gtacgtgctc	gctcgtatgc	7560
tgatccagc	tgtgtgtcga	atgggcaggt	agccggatca	agcgtatgca	gccgcgcgat	7620
agctgcaccc	atgatggata	ctttctcggc	aggagcaagg	tgagatgaca	ggagatcctg	7680
ccccggcact	tcgccccata	gcagccagtc	octtcccgct	tcagtgacaa	ogtccagcac	7740
agctgcgcga	ggaaacggcg	tcgtggccag	ccacgatagc	cgcgctgcct	gctcgttcag	7800
ttcattcagg	gcaccgggaca	ggctcggctt	gacaaaaaga	accggggcgc	ctcgcgtcga	7860
cagccggcac	acggcgcatc	cagagcgacc	gattgtctgt	tgtgcccgat	catagccgaa	7920
tagccctccc	acccatcgcg	ccggagaaac	tgcgtgcaat	tgcgttgttt	caatcatcgcg	7980

aaacgatcct	catacctgtct	cttgatcaga	gcttgatccc	ctcgcccatc	agatcccttg	8040
cggcgagaaa	gocattccagt	ttacttttgca	gggctttgtca	acottaccag	ataaaagtgc	8100
tcatcatcgg	aaaaatttca	attcgtcgac	ctcgaaaatc	taccgggtag	gggaggcgct	8160
tttcccaagg	cagtctggag	catgcgcttt	agcagccccg	ctgggcactt	ggcgctacac	8220
aagtggctct	tggcctcgca	cacattccac	atccaccggt	aggcgccaac	cggtctccgt	8280
ctttgggtggc	cccttcgccc	cacctctac	tcttccccta	gtcaggaagt	tccccccgcg	8340
cccgcanctc	gcgtcgtgca	ggacgtgaca	aatggaaata	gcacgtctca	ctagttctcgt	8400
gcagatggac	aagcacccgt	gagcaatgga	gcgggttaggc	ctttggggca	ggcgccaata	8460
gcagctttgc	tcttctcgtt	tctgggctca	gaggctggna	aggggtgggt	ccggggcgcg	8520
gtccaggggc	gggtccaggg	gcggggcggg	cgcccgaagg	tctctcggag	gcgccgcatt	8580
ctgcacgctt	caaaagcgca	cgtctgcgcg	gctgttctcc	tcttctctat	ctccgggcct	8640
ttcgacctgc	atccatctag	atctcgagca	gctgaagctt	accatgacgc	agtacaagcc	8700
cacggctcgc	ctcgccaccc	gcgacgacgt	ccccggggcc	gtacgcaccc	tgcgcgcgcg	8760
gttcgcgcac	taccccgcca	cgcgccacac	cgtcgacccg	gacgcgcaca	tcgagcgggt	8820
caccgagctg	caagaactct	tcttcacgcg	cgctgggctc	gacatcgcca	aggtgtgggt	8880
cgcgagcgac	ggcgccggcg	tggcggtctg	gaccacgcgc	gagagcgtcg	aagcgggggc	8940
ggtgttcgcc	gagatcgccc	cgcgcatggc	cgagttgagc	ggttccccgc	tggccgcgca	9000
gcacaagatg	gaaggctccc	tggcgccgca	ccgggcccac	ggagccccgc	tggctccttg	9060
gccccacgtc	ggcggtcttc	gccccaccac	cagggcgaag	gtctggcaag	cgccctcgtg	9120
ctccccggag	tggaggcggc	cgagcgcgcc	ggggtgcgcc	cccttcctgga	gacctccgcg	9180
ccccgcaccc	tccctctcta	cgagcggctc	ggcttcacgc	tcaccgcgca	cgctcgaggtg	9240
cccgaaggac	cgccgcacctg	gtgcatagcc	cgcaagcccc	gtgcctgacg	cccgccccac	9300
gcgcgcgacg	gccccgaccga	aaggagcgca	cgaccccatg	catcgatggc	actgggcagg	9360
taagtatcaa	ggttagcggc	cgctaacctg	gttgctgact	aattgagatg	catgctttgc	9420
atactctcgc	ctcgtcgggga	gcctggggac	tttccacacc	ctaactgaca	cacattccac	9480
agctgtgtct	ttcgcgcctca	gaaggctacac	aggcgaaatt	gtaacgtgta	atatatttgt	9540
aaaattcgcg	tataattttt	gttaaatcag	ctcatttttt	aaccaatagg	ccgaaatcgg	9600
caaaatccct	tataaatcaa	aagaatagac	cgagataggg	ttgagtggtg	ttccagtttg	9660
gaacaagagt	ccactattaa	agaacgtgga	ctccaacgctc	aaagggcgaa	aaaccgtcta	9720
tcagggcgat	ggccccac					9737

<210> 29
 <211> 12
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Vector
 Promoter

<400> 29
 acccagggtga tg 12

<210> 30
 <211> 15
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Vector
 Promoter

<400> 30
 accatgcagg tgatg 15

<210> 31
 <211> 16
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Vector
 Promoter

 <400> 31
 accatggcag gtgatg 16

 <210> 32
 <211> 17
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Vector
 Promoter

 <400> 32
 accatgggca ggtgatg 17

 <210> 33
 <211> 10
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Vector

 <220>
 <223> polyA tail

 <400> 33
 aaaaaaaaaa 10